



Search Report

EIC 1700

STIC Database Tracking Number: 280775

To: MICHAEL BERNSTEYN

Location: REM-10D25

Art Unit: 1796

Tuesday, December 16, 2008

Case Serial Number: 10/542022

From: USHA SHRESTHA

Location: EIC1700

REM-4B28

Phone: (571)272-3519

usha.shrestha@uspto.gov

Search Notes

Examiner BERNSTEYN:

Please see the search results, feel free to contact me if you have any questions or if you like to refine the search query. Thank you for using STIC services!

Regards,
Usha



RUSH

Access DB# 280775



EIC 1700
SEARCH REQUEST

Today's Date 12/15/2008

Name MICHAEL BERNSHOEYN

AU/Org. 1796 Examiner # 81515

Bld.&Rm.# Rem. 10025 Phone 272-2411

Priority App. Filing Date 01/29/2003

Case/App. # 10/542,022

Format for Search Results

EMAIL

PAPER

If this is a Board of Appeals case, check here

Synonyms

Describe this invention in your own words.

Terms to avoid

Additional Comments

Please, try to find a polymer (A1) according claim 1 with the limitations of claims 2-6.

Thank you

M. Bernshoeyn

10/542022
Classification: 525/061.000
Status: 30 - DOCKETED NEW CASE - READY FOR EXAMINATION
Title: CROSSLINKED POLYVINYL ACETALS

Examiner: BERNSTEYN, MICHAEL
Inventor: PAPENFUHS, BERND, et al

GAU: 1796

Bib Data report

Application Title: CROSSLINKED POLYVINYL ACETALS

Application Num:  (in phx) 10/542022 **Filing Date:** 12/30/2005

Effective Filing: 07/11/2005

(Location History) (Foreign/Continuity Data)

Status: 30/DOCKETED NEW CASE - READY FOR EXAMINATION **Status Date:**
12/18/2006

Patent Number: Not Issued **Issue Date:** N/A **Date of Abandonment:** N/A
Confirmation Number: 8186 **PALM Location:**

Examiner: 81515 BERNSTEYN, MICHAEL (Assignment Data) **Group Art:**
Unit: 1796 **Class/Subclass:** 525/061.000

State or Country: GERMANY **Sheets/Drawing:** 0 **Total Claims:** 17
Independent Claims: 1

Inventors:

Last name, First name: CITY:

PAPENFUHS, BERND

OBERTSHAUSEN

Country or State:

GERMANY

STEUER, MARTIN

LIEDERBACH

GERMANY

GUTWEILER, MATTHIAS

HUENFELDEN

GERMANY

Attorneys: ALL **Attorney Docket No:** KURARAY-7

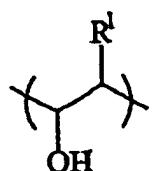
Interference No: **Lost Case: No** **Unmatched Petition: No** **L&R Code:** 1

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) Process for the production of cross-linked polyvinyl acetals, in which a polymer (A1) is cross-linked, which, relative to its total weight, contains

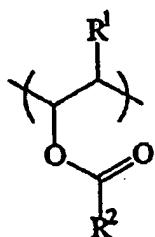
a) 1.0 to 99.9% by weight of structural units of formula (1)



(1)

in which R¹ means hydrogen or methyl,

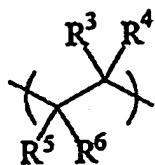
b) 0 to 99.0% by weight of structural units of formula (2)



(2)

in which R² represents hydrogen or an alkyl radical with 1 to 6 carbon atoms,

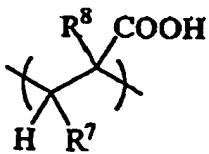
c) 0 to 70.0% by weight of structural units of formula (3)



(3)

in which R³, R⁴, R⁵ and R⁶, in each case independently of one another, are radicals with a molecular weight in the range of 1 to 500 g/mol,

d) 0.00001 to 30.0% by weight of structural units of formula (4)



(4)

in which R⁷ and R⁸, in each case independently of one another, contain hydrogen, a carboxyl group, an alkyl group with 1 to 10 carbon atoms, which optionally can exhibit one or more COOH groups as substituents, or represents an optionally substituted aryl group with 6 to 12 carbon atoms, characterized in that in any sequence

(i) Polymer (A1) is reacted with at least one polyaldehyde of formula (5),



in which R⁹ represents a bond or a radical that has 1 to 40 carbon atoms, and n is an integer that is greater than or equal to 2,

and

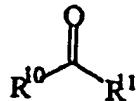
(ii) Groups of formula (1) and formula (4) are at least partially esterified with one another.

2. (Currently Amended) Process according to claim 1 at least one of the preceding claims, wherein a compound (5) with n = 2 or 3 is used.

3. (Currently Amended) Process according to claim 1 at least one of the preceding claims, wherein a compound (5) is used, in which R⁹ is an aliphatic, cycloaliphatic and/or aromatic group with 1 to 12 carbon atoms.

4. (Currently Amended) Process according to claim 1 at least one of the preceding claims, wherein glutaric dialdehyde and/or n-nanedral is used as compound (5).

5. (Currently Amended) Process according to claim 1 at least one of the preceding claims, wherein at any time, at least one compound of formula (6) is added,



(6)

in which R¹⁰ and R¹¹, in each case independently of one another, are hydrogen, an alkyl group with 1 to 10 carbon atoms or an optionally substituted aryl group with 6 to 12 carbon atoms.

6. (Original) Process according to claim 5, wherein n-butyraldehyde is used as compound (6).

7. (Currently Amended) Process according to claim 5 and/or 6, wherein

(1) 95.00 to 99.99 parts by weight of at least one compound (6)

(2) 0.01 to 5.00 parts by weight of at least one polyaldehyde (5)

are used, whereby the indicated parts by weight are supplemented up to 100.00 parts by weight.

8. (Currently Amended) Process according to claim 1 at least one of the preceding claims, wherein esterification (ii), optionally in the presence of at least one softener, is performed at mass temperatures in the range of 80 to 280°C.

9. (Original) Process according to claim 8, wherein the cross-linking is performed in an extruder, a kneading aggregate or another heatable aggregate.

10. (Currently Amended) Cross-linked polyvinyl acetal that can be obtained by a process according to claim 1 at least one of the preceding claims.

11. (Original) Polyvinyl acetal according to claim 10, wherein its total content of esterified and non-esterified carboxyl groups is less than or equal to 10.0% by weight, relative to the total weight of the polyvinyl acetal.

12. (Currently Amended) Polyvinyl acetal according to claim 10 and/or 11, wherein it contains a softener.

13. (Currently Amended) Molding compound that contains a polyvinyl acetal according to claim 10 at least one of claims 10 to 12.

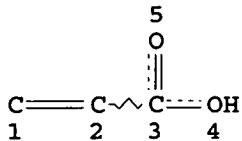
14. (Currently Amended) Film that contains a polyvinyl acetal according to claim 10 at least one of claims 10 to 12.

15. (Original) Use of a film according to claim 14 for the production of laminated safety glasses.

16. (Currently Amended) Coating that contains a polyvinyl acetal according to claim 10 at least one of claims 10 to 12.

17. (Currently Amended) Use of a polyvinyl acetal according to claim 10 at least one of claims 10 to 12 for the production of ion-conductive intermediate layers for electrochromic systems.

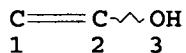
=> d que 174
 L2 2 SEA FILE=REGISTRY ABB=ON PLU=ON (111-30-8/BI OR 51651-40-
 2/BI)
 L7 STR



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 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE
 L9 SCR 2043
 L11 STR



NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE
 L13 962 SEA FILE=REGISTRY SSS FUL L11 AND L7 AND L9
 L15 STR

OHC~^G1~^CHO
 1 2 3

VAR G1=AK/CY
 NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE
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 L19 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L17
 L20 1924 SEA FILE=HCAPLUS ABB=ON PLU=ON L18
 L21 12977 SEA FILE=HCAPLUS ABB=ON PLU=ON L2
 L22 9 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND L21
 L26 23508 SEA FILE=HCAPLUS ABB=ON PLU=ON "ALDEHYDES, REACTIONS"+PFT
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L33 , PY
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 , PY
 L34 19020 SEA FILE=HCAPLUS ABB=ON PLU=ON "POLYVINYL ACETALS"+PFT,NT
 /CT
 L35 23 SEA FILE=HCAPLUS ABB=ON PLU=ON L34 AND L26
 L37 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L35 AND (CROSSLINK? OR
 CROSS LINK?)
 L38 6 SEA FILE=HCAPLUS ABB=ON PLU=ON L37 AND (1840-2003)/PRY,AY
 , PY
 L39 15 SEA FILE=HCAPLUS ABB=ON PLU=ON L32 OR L33 OR L38
 L47 448 SEA FILE=HCAPLUS ABB=ON PLU=ON L34 (L) (CROSSLINK? OR
 CROSS LINK?)
 L49 35 SEA FILE=HCAPLUS ABB=ON PLU=ON L47 AND L21
 L50 29 SEA FILE=HCAPLUS ABB=ON PLU=ON L49 AND (1840-2003)/PRY,AY
 , PY
 L51 10 SEA FILE=HCAPLUS ABB=ON PLU=ON L50 AND POLYMER?/SC, SX
 L52 23 SEA FILE=HCAPLUS ABB=ON PLU=ON L51 OR L39
 L54 1 SEA FILE=REGISTRY ABB=ON PLU=ON "GLUTARIC DIALDEHYDE"/CN

 L55 1 SEA FILE=REGISTRY ABB=ON PLU=ON NONANEDIAL/CN
 L56 1 SEA FILE=REGISTRY ABB=ON PLU=ON BUTYRALDEHYDE/CN
 L58 26576 SEA FILE=HCAPLUS ABB=ON PLU=ON (L54 OR L55 OR L56)
 L59 QUE ABB=ON PLU=ON GLUTARIC DIALDEHYD? OR NONANEDIAL? O
 R BUTYRALDEHYD?
 L60 15 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND L58
 L61 3 SEA FILE=HCAPLUS ABB=ON PLU=ON L60 AND L59
 L62 15 SEA FILE=HCAPLUS ABB=ON PLU=ON L60 OR L61
 L63 11 SEA FILE=HCAPLUS ABB=ON PLU=ON L62 AND (CROSSLINK? OR
 CROSS LINK?)
 L64 15 SEA FILE=HCAPLUS ABB=ON PLU=ON L62 OR L63
 L65 13 SEA FILE=HCAPLUS ABB=ON PLU=ON L64 AND (1840-2003)/PRY,AY
 , PY
 L67 698 SEA FILE=REGISTRY ABB=ON PLU=ON 111-30-8/CRN
 L68 2 SEA FILE=REGISTRY ABB=ON PLU=ON 51651-40-2/CRN
 L69 263 SEA FILE=REGISTRY ABB=ON PLU=ON 123-72-8/CRN
 L70 7 SEA FILE=REGISTRY ABB=ON PLU=ON L13 AND ((L67 OR L68 OR
 L69))
 L71 9 SEA FILE=HCAPLUS ABB=ON PLU=ON L70
 L72 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L71 AND (1840-2003)/PRY,AY
 , PY
 L73 15 SEA FILE=HCAPLUS ABB=ON PLU=ON L65 OR L72
 L74 29 SEA FILE=HCAPLUS ABB=ON PLU=ON L73 OR L52

=> d 174 1-29 ibib ed abs hitstr hitind

L74 ANSWER 1 OF 29 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2006:908753 HCAPLUS
 DOCUMENT NUMBER: 146:9199
 TITLE: Manufacturing method for poly(vinyl alcohol)
 fibers having high strength and excellent hot
 water resistance for tire cords
 INVENTOR(S): Choi, Soo Myung; Kim, Hak Sung; Kwon, Ik Hyeon;
 Park, Sung Ho
 PATENT ASSIGNEE(S): Hyosung Corporation, S. Korea
 SOURCE: Repub. Korean Kongkae Taeho Kongbo, No pp. given
 CODEN: KRXXA7
 DOCUMENT TYPE: Patent
 LANGUAGE: Korean

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
KR 2005041003	A	20050504	KR 2003-75864	20031029
PRIORITY APPLN. INFO.:				KR 2003-75864
				<-- 20031029

ED Entered STN: 07 Sep 2006

AB Raw cords are obtained by preparing poly(vinyl alc.) (I) having d.p. 1500-7000 and saponification degree >99.9 mol%, dissolving I in DMSO, spinning the solution with a dry and wet type or a wet type, drawing the yarns at a high drawing rate, heating the drawn yarns, twisting the drawn yarns to manufacture the first twisted yarns, twisting two or three threads of the first twisted yarns in an opposite direction of the first twist to manufacture a raw cord, adding 1-30% alcs. to a crosslinking aqueous solution containing an aromatic aldehyde and an acid catalyst, and then crosslinking the raw cord in the solution with 0.5-2.0% aromatic aldehydes. A tire cord is obtained by treating the crosslinked raw cord with an adhering liquid

IC ICM D01F006-14

CC 39-13 (Synthetic Elastomers and Natural Rubber)
Section cross-reference(s): 40

ST polyvinyl alc crosslinking vinal fiber tire cord

IT Aldehydes, reactions

(aromatic; poly(vinyl alc.) fibers having high strength and excellent hot water resistance for tire cords)

IT Polyvinyl acetals

(aromatic; poly(vinyl alc.) fibers having high strength and excellent hot water resistance for tire cords)

IT Crosslinking agents

Tire cords

(poly(vinyl alc.) fibers having high strength and excellent hot water resistance for tire cords)

L74 ANSWER 2 OF 29 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:181370 HCAPLUS

DOCUMENT NUMBER: 142:241831

TITLE: Vinyl alcohol polymer-based porous granular gels and their manufacture

INVENTOR(S): Yamamoto, Hideki; Kushida, Akihiro

PATENT ASSIGNEE(S): Kuraray Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005054148	A	20050303	JP 2003-289144	20030807
PRIORITY APPLN. INFO.:				<-- JP 2003-289144
				20030807

ED Entered STN: 04 Mar 2005

AB Vinyl alc. polymer-based porous granular gels having hollow insides, useful as materials for microbial immobilization, waste treatment, water holding, etc., are manufactured. Thus, an aqueous solution containing Na

alginate (0.7 g/100 mL) was dropped into an aqueous solution of CaCl₂ (0.1 mol/L) to give Ca alginate gel core particles (average size 4 mm), which were immersed into an aqueous solution of CaCl₂ (0.1 mol/L) for penetration of the solution into the core particles, immersed into a solution containing poly(vinyl alc.) and Na alginate to form gel layers at the outside of the core particles, washed with water, immersed into an aqueous CaCl₂ solution, and crosslinked by immersion into a solution containing HCHO, Na₂SO₄, and H₂SO₄, the crosslinked particles were immersed into an aqueous NaOH solution at 60° for dissoln. of the cores, and washed to give poly(vinyl alc.)-based porous granular gels (particle size 6 mm) having hollow insides.

IC ICM C08J009-26
 ICS C08L029-04
 CC 38-3 (Plastics Fabrication and Uses)
 ST vinyl alc polymer porous granular gel; hollow granular gel
 crosslinked polyvinyl alc; alginate calcium polyvinyl alc gel
 manuf
 IT Acids, uses
 (crosslinking accelerators; manufacture of crosslinked
 vinyl alc. polymer-based porous granular gels having hollow
 insides)
 IT Aldehydes, reactions
 (crosslinking agents; manufacture of crosslinked
 vinyl alc. polymer-based porous granular gels having hollow
 insides)
 IT Polyvinyl acetals
 (formals; manufacture of crosslinked vinyl alc. polymer-based
 porous granular gels having hollow insides)
 IT Gelatins, uses
 (gel-forming, in preparation of hollow insides; manufacture of
 crosslinked vinyl alc. polymer-based porous granular gels
 having hollow insides)
 IT Crosslinking
 Crosslinking agents
 Crosslinking catalysts
 Hydrogels
 Sol-gel processing
 (manufacture of crosslinked vinyl alc. polymer-based porous
 granular gels having hollow insides)
 IT Polyvinyl acetals
 (manufacture of crosslinked vinyl alc. polymer-based porous
 granular gels having hollow insides)
 IT Polysaccharides, uses
 (water-sol, gel-forming, in preparation of hollow insides; manufacture of
 crosslinked vinyl alc. polymer-based porous granular gels
 having hollow insides)
 IT 7664-93-9, Sulfuric acid, uses
 (crosslinking accelerator; manufacture of crosslinked
 vinyl alc. polymer-based porous granular gels having hollow
 insides)
 IT 50-00-0, Formaldehyde, reactions 75-07-0, Acetaldehyde, reactions
 (crosslinking agent; manufacture of crosslinked
 vinyl alc. polymer-based porous granular gels having hollow
 insides)
 IT 9005-38-3, Sodium alginate
 (gel-forming, in preparation of hollow insides; manufacture of
 crosslinked vinyl alc. polymer-based porous granular gels
 having hollow insides)
 IT 1310-73-2, Sodium hydroxide, uses
 (in preparation of hollow insides; manufacture of crosslinked vinyl

IT 9002-89-5, Poly(vinyl alcohol)
 alc. polymer-based porous granular gels having hollow insides)
 (manufacture of crosslinked vinyl alc. polymer-based porous
 granular gels having hollow insides)

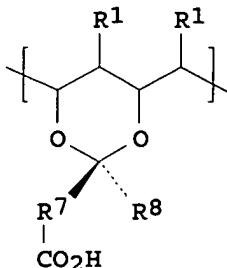
IT 10043-52-4, Calcium chloride, uses
 (polysaccharide gel-forming, in preparation of hollow insides; manufacture
 of
 crosslinked vinyl alc. polymer-based porous granular gels
 having hollow insides)

L74 ANSWER 3 OF 29 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2004:587942 HCAPLUS
 DOCUMENT NUMBER: 141:124156
 TITLE: Crosslinking of poly(vinyl acetals)
 INVENTOR(S): Papenfuhs, Bernd; Steuer, Martin; Gutweiler,
 Matthias
 PATENT ASSIGNEE(S): Kuraray Specialities Europe GmbH, Germany
 SOURCE: Ger. Offen., 12 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10319201	A1	20040722	DE 2003-10319201	20030429
WO 2004063231	A1	20040729	WO 2003-EP14109	20031212
<--				
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003294838	A1	20040810	AU 2003-294838	20031212
<--				
BR 2003017977	A	20051206	BR 2003-17977	20031212
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EP 1622946	A1	20060208	EP 2003-785800	20031212
<--				
CN 1759125	A	20060412	CN 2003-80110133	20031212
<--				
CN 100343288	C	20071017		
JP 2006513284	T	20060420	JP 2004-565965	20031212
<--				
US 20060052533	A1	20060309	US 2005-542019	20050711
<--				
PRIORITY APPLN. INFO.:			DE 2003-10300321	IA 20030109
<--				
			DE 2003-10319201	A 20030429
<--				
			WO 2003-EP14109	W 20031212

ED Entered STN: 23 Jul 2004
 GI

<--



AB The poly(vinyl acetals) are **crosslinked** by reacting a polymer containing structural units (1) CHOHCHR1 ($\text{R1} = \text{H, Me}$), i.e., poly(vinyl alc.) or poly(propenyl alc.), and optionally structural units (2) CHO2CR2CHR1 ($\text{R2} = \text{H, C1-6 alkyl}$), (3) CR5R6CR3R4 ($\text{R3-R6} = \text{residues with mol. weight 1-500 g/mol}$) and acetal units I [$\text{R7} = \text{bond, C1-10 alkylene, (un)substituted C6-12 arylene}$; $\text{R8} = \text{H, CO2H, C1-10 alkyl, (un)substituted C6-12 aryl}$] with a polyaldehyde R9(CHO)n ($\text{R9} = \text{C1-40 residue; n} \geq 2$), e.g., pentanedral or nonanedral, and with esterification of structural units (1) with structural units I. The **crosslinked** poly(vinyl acetals) are useful for manufacture of plastic films, laminated safety glass, for coatings and as ion-conductive intermediate layers for electrochromic systems (no examples).

IT 111-30-8, Glutardialdehyde 51651-40-2,
 1,9-Nonanedral
 (crosslinking agent; crosslinking of poly(vinyl acetals) with polyaldehydes)

RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)

$\text{OHC-}(\text{CH}_2)_3-\text{CHO}$

RN 51651-40-2 HCPLUS
 CN Nonanedral (CA INDEX NAME)

$\text{OHC-}(\text{CH}_2)_7-\text{CHO}$

IC ICM C08F008-28
 ICS C08F008-14; C08F016-00

CC 35-8 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 38, 74, 76

ST polyvinyl acetal **crosslinking** polyaldehyde; dialdehyde
crosslinking agent polyvinyl acetal

IT Windshields
 (automotive; **crosslinking** of poly(vinyl acetals) with
 polyaldehydes)

IT Coating materials
Crosslinking

Plastic films
 (crosslinking of poly(vinyl acetals) with polyaldehydes)
 IT Polyvinyl acetals
 (crosslinking of poly(vinyl acetals) with polyaldehydes)
 IT Safety glass
 (laminated safety glass; crosslinking of poly(vinyl acetals) with polyaldehydes)
 IT Crosslinking agents
 (polyaldehydes; crosslinking of poly(vinyl acetals) with)
 IT Aldehydes, reactions
 (polyfunctional, crosslinking agents;
 crosslinking of poly(vinyl acetals) with)
 IT Laminated glass
 (safety glass; crosslinking of poly(vinyl acetals) with
 polyaldehydes)
 IT 111-30-8, Glutardialdehyde 51651-40-2,
 1,9-Nonanedral
 (crosslinking agent; crosslinking of poly(vinyl acetals) with polyaldehydes)
 IT 9002-89-5, Poly(vinyl alcohol) 28388-89-8, Poly(propenyl alcohol)
 (crosslinking of poly(vinyl acetals) with polyaldehydes)

L74 ANSWER 4 OF 29 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2004:587941 HCAPLUS
 DOCUMENT NUMBER: 141:124155
 TITLE: Crosslinking of poly(vinyl acetals)
 INVENTOR(S): Papenfuhs, Bernd; Steuer, Martin; Gutweiler, Matthias
 PATENT ASSIGNEE(S): Kuraray Specialities Europe GmbH, Germany
 SOURCE: Ger. Offen., 9 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10319199	A1	20040722	DE 2003-10319199	20030429 <--
WO 2004063232	A1	20040729	WO 2003-EP14110	20031212 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003293853	A1	20040810	AU 2003-293853	20031212 <--
EP 1606325	A1	20051221	EP 2003-789238	20031212 <--
EP 1606325	B1	20080305		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,				

PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2006513285	T	20060420	JP 2004-565966	20031212
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AT 388170	T	20080315	AT 2003-789238	20031212
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US 20060205871	A1	20060914	US 2005-542022	20051230
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PRIORITY APPLN. INFO.:			DE 2003-10300320	IA 20030109
			<--	
			DE 2003-10319199	A 20030429
			<--	
			WO 2003-EP14110	W 20031212
			<--	

ED Entered STN: 23 Jul 2004

AB The poly(vinyl acetals) are crosslinked by reacting a polymer containing structural units (1) CHOHCHR1 ($\text{R1} = \text{H, Me}$) and optionally structural units (2) CHO2CR2CHR1 ($\text{R2} = \text{H, C1-6 alkyl}$), (3) CR5R6CR3R4 ($\text{R3-R6} = \text{residues with mol. weight 1-500 g/mol}$) and (4) CHR7CR8CO2H [$\text{R7, R8} = \text{H, carboxyl, C1-10 (carboxy-substituted) alkyl, (un)substituted C6-12 aryl}$] with a polyaldehyde R9(CHO)n ($\text{R9} = \text{C1-40 residue; n} \geq 2$), e.g., pentanedral or nonanedral, and with esterification of structural units (1) with structural units (4). The crosslinked poly(vinyl acetals) are useful for manufacture of plastic films, laminated safety glass, for coatings and as ion-conductive intermediate layers for electrochromic systems (no examples).

IT 111-30-8, Glutardialdehyde 51651-40-2,

1,9-Nonanedral
(crosslinking agent; crosslinking of poly(vinyl acetals) with polyaldehydes)

RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)

OHC— $(\text{CH}_2)_3$ —CHO

RN 51651-40-2 HCPLUS
CN Nonanedral (CA INDEX NAME)

OHC— $(\text{CH}_2)_7$ —CHO

IC ICM C08F008-28
ICS C08F008-14; C08F016-00
CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 38, 74, 76
ST polyvinyl acetal crosslinking polyaldehyde; dialdehyde crosslinking agent polyvinyl acetal
IT Windshields
(automotive; crosslinking of poly(vinyl acetals) with polyaldehydes)
IT Polyvinyl acetals
(crosslinked; crosslinking of poly(vinyl acetals) with polyaldehydes)
IT Coating materials
Crosslinking
Plastic films
(crosslinking of poly(vinyl acetals) with polyaldehydes)

IT Safety glass
(laminated safety glass; crosslinking of poly(vinyl acetals) with polyaldehydes)

IT Crosslinking agents
(polyaldehydes; crosslinking of poly(vinyl acetals) with)

IT Aldehydes, reactions
(polyfunctional, crosslinking agents;
crosslinking of poly(vinyl acetals) with)

IT Laminated glass
(safety glass; crosslinking of poly(vinyl acetals) with polyaldehydes)

IT 111-30-8, Glutardialdehyde 51651-40-2,
1,9-Nonanedral
(crosslinking agent; crosslinking of poly(vinyl acetals) with polyaldehydes)

L74 ANSWER 5 OF 29 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:203869 HCAPLUS

DOCUMENT NUMBER: 140:236562

TITLE: Heat-sensitive materials and their use in chemically resistant positive working lithographic printing plate precursors

INVENTOR(S): Timpe, Hans-Joachim; Mueller, Ursula;
Savariar-Hauck, Celin

PATENT ASSIGNEE(S): Kodak Polychrome Graphics G.m.b.H., Germany

SOURCE: PCT Int. Appl., 37 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004020484	A1	20040311	WO 2003-EP9550	20030828
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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10239505	A1	20040408	DE 2002-10239505	20020828
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DE 10239505	B4	20050504		
AU 2003255494	A1	20040319	AU 2003-255494	20030828
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EP 1543046	A1	20050622	EP 2003-790933	20030828
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EP 1543046	B1	20060510		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 20060130689	A1	20060622	US 2006-526138	20060130
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PRIORITY APPLN. INFO.: DE 2002-10239505 A 20020828
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 WO 2003-EP9550 W 20030828
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ED Entered STN: 14 Mar 2004

AB Heat-sensitive element comprises (a) an optionally pre-treated substrate (b) a pos. working heat-sensitive coating comprising (i) at least one novolak resin, (ii) at least one component which reduces the aqueous alkaline developer solubility of novolak, wherein said reduction in solubility is reversed upon the application of heat, and (iii) at least one acidic polyvinyl acetal, wherein components (i) and (ii) do not have to be present as sep. substances but may be used in the form of an appropriately functionalized novolak. A coating composition contained Alnovol SPN 452, a reaction product of hydrolyzed Mowiol 10/98, propionaldehyde, and 4-formyl benzoic acid, 3-mercaptop-1,2,4-triazole, N-benzyl quinolinium bromide, crystal violet, and 2-[2-[2-thiophenyl-3-[2-(1,3-dihydro-1,3,3-trimethyl-2H-indole-2-ylidene)ethylidene]-1-cyclohexene-1-yl]ethenyl]-1,3,3-trimethyl-3H-indolium chloride.

IT 123-72-8P, Butyraldehyde 37768-21-1DP,
 Acrylic acid-vinyl acetate-vinyl alcohol copolymer, cyclic acetals with aldehydes
 (heat-sensitive materials and their use in chemical resistant pos. working lithog. printing plate precursors)

RN 123-72-8 HCPLUS

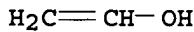
CN Butanal (CA INDEX NAME)



RN 37768-21-1 HCPLUS
 CN 2-Propenoic acid, polymer with ethenol and ethenyl acetate (CA INDEX NAME)

CM 1

CRN 557-75-5
 CMF C2 H4 O



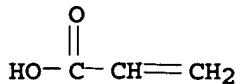
CM 2

CRN 108-05-4
 CMF C4 H6 O2



CM 3

CRN 79-10-7
 CMF C3 H4 O2



IC ICM C08F008-14
 ICS C08L029-14; C08F008-28; C08K005-06; B41C001-10; B41M005-36;
 B41M005-40

CC 37-6 (Plastics Manufacture and Processing)
 Section cross-reference(s): 74

IT 75-07-0P, Acetaldehyde, preparation 123-38-6DP, Propionaldehyde, cyclic acetals with polyvinyl alcs. 123-72-8P, **Butyraldehyde** 619-66-9DP, 4-Formyl benzoic acid, cyclic acetals with polyvinyl alcs. 3977-29-5DP, 6-Methylisocytosine, reaction products with isophorone diisocyanate and Alnovol SPN 564 4098-71-9DP, Isophorone diisocyanate, reaction products with 6-methylisocytosine and Alnovol SPN 564 9002-89-5DP, Mowiol 10/98, hydrolyzed, cyclic acetals with aldehydes 9002-89-5DP, Mowiol 5/88, hydrolyzed, reaction products with **butyraldehyde** and 4-benzene sulfonamide **butyraldehyde** di-Et acetal 37768-21-1DP, Acrylic acid-vinyl acetate-vinyl alcohol copolymer, cyclic acetals with aldehydes 124874-16-4DP, Toluene sulfonylisocyanate, reaction products with Mowital B70H 668260-95-5DP, reaction products with Mowital 5/88 (heat-sensitive materials and their use in chemical resistant pos. working lithog. printing plate precursors)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L74 ANSWER 6 OF 29 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2003:1006900 HCAPLUS
 DOCUMENT NUMBER: 140:31135
 TITLE: Method of purifying Fischer-Tropsch derived water
 INVENTOR(S): Dancuart Kohler, Luis Pablo Fidel; Du Plessis, Gert Hendrik; Du Toit, Francois Jacobus; Koper, Edward Ludovicus; Phillips, Trevor David; Van Der Walt Janette
 PATENT ASSIGNEE(S): Sasol Technology (Pty) Ltd., S. Afr.; Dancuart Kohler, Luis Pablo Fidel
 SOURCE: PCT Int. Appl., 30 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003106349	A1	20031224	WO 2003-ZA79	20030618

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
 BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
 NE, SN, TD, TG

NL 1023691	A1	20031219	NL 2003-1023691	20030618
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NL 1023691	C2	20040218		
AU 2003276161	A1	20031231	AU 2003-276161	20030618
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GB 2391225	A	20040204	GB 2003-14071	20030618
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GB 2391225	B	20051026		
BR 2003011914	A	20050426	BR 2003-11914	20030618
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CN 1662455	A	20050831	CN 2003-814083	20030618
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CN 1312051	C	20070425		
JP 2006514579	T	20060511	JP 2004-513186	20030618
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RU 2328457	C2	20080710	RU 2004-138562	20030618
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US 20050139555	A1	20050630	US 2004-15308	20041216
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US 7153432	B2	20061226		
NO 2005000251	A	20050318	NO 2005-251	20050117
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ZA 2005000398	A	20060531	ZA 2005-398	20050117
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PRIORITY APPLN. INFO.:			US 2002-389653P	P 20020618
			<--	
			ZA 2002-4846	A 20020618
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			WO 2003-ZA79	W 20030618
			<--	

ED Entered STN: 26 Dec 2003

AB A process for the production of highly purified water from Fischer-Tropsch reaction water, includes at least the steps of a primary treatment stage comprising an equilibrium staged separation process having at least one stage for removing at least a fraction of non-acid oxygenated hydrocarbons from the Fischer-Tropsch reaction water to produce a primary water-enriched stream, a secondary treatment stage comprising at least one membrane separation process for removing at least some suspended solids and acidic oxygenated hydrocarbons from at least a portion of the primary water-enriched stream to produce a secondary water-enriched stream and a tertiary treatment stage comprising a dissolved salt and organic removal stage for removing at least some dissolved salts and organic constituents from at least a portion of the secondary water-enriched stream. The method allows recovery of pure water from wastewaters containing volatile organic compds., aldehydes, ketones, alcs., organic acids, and solids from the reactants and the catalyst.

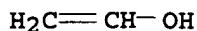
IT 26299-60-5, Acrylic acid-vinyl alcohol copolymer
 (membrane; purification of wastewaters from the Fischer-Tropsch process for recovery of potable water)

RN 26299-60-5 HCAPLUS

CN 2-Propenoic acid, polymer with ethenol (CA INDEX NAME)

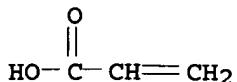
CM 1

CRN 557-75-5
 CMF C2 H4 O



CM 2

CRN 79-10-7
 CMF C3 H4 O2



IT 123-72-8, **Butyraldehyde**
 (purification of wastewaters from the Fischer-Tropsch process for
 recovery of potable water)
 RN 123-72-8 HCPLUS
 CN Butanal (CA INDEX NAME)



IC ICM C02F001-44
 ICS C02F009-02; C02F101-32; C02F101-34
 CC 61-5 (Water)
 Section cross-reference(s): 51, 60
 IT 9002-89-5, Polyvinyl alcohol
 (crosslinked, membrane; purification of wastewaters from the
 Fischer-Tropsch process for recovery of potable water)
 IT 9003-07-0, Polypropylene 25667-42-9, Poly ether sulfone
 26299-60-5, Acrylic acid-vinyl alcohol copolymer
 (membrane; purification of wastewaters from the Fischer-Tropsch process
 for recovery of potable water)
 IT 64-17-5, Ethanol, processes 64-18-6, Formic acid, processes
 64-19-7, Acetic acid, processes 67-56-1, Methanol, processes
 67-64-1, Acetone, processes 75-07-0, Acetaldehyde, processes
 79-09-4, Propionic acid, processes 107-87-9, Methyl propyl ketone
 107-92-6, Butyric acid, processes 109-52-4, Valeric acid, processes
 111-14-8, Heptanoic acid 123-38-6, Propionaldehyde, processes
 123-72-8, **Butyraldehyde** 124-07-2, Octanoic acid,
 processes 142-62-1, Hexanoic acid, processes 25917-35-5, Hexanol
 30899-19-5, Pentanol 35296-72-1, Butanol 53535-33-4, Heptanol
 62309-51-7, Propanol
 (purification of wastewaters from the Fischer-Tropsch process for
 recovery of potable water)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L74 ANSWER 7 OF 29 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2001:713193 HCPLUS
 DOCUMENT NUMBER: 135:262307
 TITLE: Polymer-based injectable and swellable

INVENTOR(S): microspheres for tissue bulking
 Vogel, Jean-Marie; Boschetti, Egisto
 PATENT ASSIGNEE(S): Biosphere Medical, Inc., USA
 SOURCE: PCT Int. Appl., 34 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001070289	A2	20010927	WO 2001-US8405	20010315 <--
WO 2001070289	A3	20020627		
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	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG		
EP 1274472	A2	20030115	EP 2001-922415	20010315 <--
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR		
PRIORITY APPLN. INFO.:			US 2000-528989	A 20000320 <--
			WO 2001-US8405	W 20010315 <--

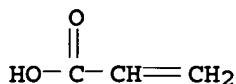
ED Entered STN: 28 Sep 2001
 AB The present invention relates to injectable compns. comprising biocompatible, swellable, hydrophilic, non-toxic and substantially spherical microspheres useful for tissue bulking. The invention also relates to methods of tissue bulking, particularly for the treatment of gastro-esophageal reflux disease, urinary incontinence, or urinary reflux disease, using the injectable compns. For example, microspheres were prepared from (a) 58 g of sodium chloride and 27 g of sodium acetate in 100 mL of water, (b) 400 mL of glycerol, (c) monomers, i.e., 90 g of N-tris-hydroxymethylacrylamide, 35 mg of diethylaminoethylacrylamide and 10 g of N,N-methylenebis-acrylamide, and (d) gelatin, under heating at 60-70°. The total volume of the mixture was adjusted to 980 mL by addition of hot water and then 20 mL of a 70 mg/mL ammonium persulfate solution and 4 mL of N,N,N',N'-tetramethylethylenediamine were added. This solution was poured into paraffin oil at 50-70° under stirring. After a few minutes, the polymerization reaction of acrylic monomers is manifested by an increase of temperature. The microspheres are then recovered by decanting, washed carefully, screened and sterilized in an autoclave in a buffered medium. The microspheres, after screen calibration, possess the characteristics desired for dermal augmentation, including a marked cationic charge and an effective adhesion agent (gelatin or denatured collagen).
 IT 111-30-8, Glutaraldehyde
 (crosslinking agent; preparation of polymeric injectable and swellable microspheres for tissue bulking)
 RN 111-30-8 HCPLUS
 CN Pentanedral (CA INDEX NAME)

OHC—(CH₂)₃—CHO

IT 58374-38-2, Sodium acrylate-vinyl alcohol copolymer
(preparation of polymeric injectable and swellable microspheres for
tissue bulking)
RN 58374-38-2 HCPLUS
CN 2-Propenoic acid, sodium salt (1:1), polymer with ethenol (CA INDEX
NAME)

CM 1

CRN 7446-81-3
CMF C₃ H₄ O₂ . Na



● Na

CM 2

CRN 557-75-5
CMF C₂ H₄ O

H₂C=CH—OH

IC ICM A61L027-38
ICS A61L027-54; A61L031-00; A61L031-16
CC 63-7 (Pharmaceuticals)
IT Anti-inflammatory agents
Antibacterial agents
Antihistamines
Biocompatibility
Crosslinking agents
Swelling, physical
(preparation of polymeric injectable and swellable microspheres for
tissue bulking)
IT 9003-04-7, Sodium polyacrylate
(crosslinked; preparation of polymeric injectable and
swellable microspheres for tissue bulking)
IT 111-30-8, Glutaraldehyde
(crosslinking agent; preparation of polymeric injectable and
swellable microspheres for tissue bulking)
IT 79-06-1D, Acrylamide, derivs., polymers 79-10-7D, Acrylic acid,
esters, copolymers with vinyl acetate 108-05-4D, Vinyl acetate,
copolymers with acrylic acid esters 127-09-3, Sodium acetate
1309-38-2, Magnetite (Fe₃O₄), biological studies 7439-89-6D, Iron,
salts, biological studies 7439-95-4D, Magnesium, salts, biological
studies 7440-09-7D, Potassium, salts, biological studies

7440-23-5D, Sodium, salts, biological studies 7440-66-6D, Zinc, salts, biological studies 7440-70-2D, Calcium, salts, biological studies 7647-14-5, Sodium chloride, biological studies 7727-43-7, Barium sulfate 7727-54-0, Ammonium persulfate 9003-05-8, Acrylamide polymer 9003-53-6, Polystyrene 25549-84-2, Sodium acrylate polymer 25969-89-5, Methyl maleate-vinyl acetate copolymer 26426-80-2, Isobutylene-maleic anhydride copolymer 58374-38-2, Sodium acrylate-vinyl alcohol copolymer 59017-50-4D, acyl derivs. 107830-79-5, Starch-acrylonitrile graft copolymer 944130-99-8, Rhodamine isothiocyanate

(preparation of polymeric injectable and swellable microspheres for tissue bulking)

L74 ANSWER 8 OF 29 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:713087 HCAPLUS

DOCUMENT NUMBER: 135:262302

TITLE: Polymer-based injectable and swellable microspheres for dermal augmentation

INVENTOR(S): Vogel, Jean-Marie; Boschetti, Egisto

PATENT ASSIGNEE(S): Biosphere Medical, Inc., USA

SOURCE: PCT Int. Appl., 28 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001070132	A2	20010927	WO 2001-US8406	20010315
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WO 2001070132	A3	20020523		
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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6436424	B1	20020820	US 2000-528990	20000320
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EP 1267747	A2	20030102	EP 2001-916695	20010315
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US 20020197326	A1	20021226	US 2002-222819	20020819
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US 6790456	B2	20040914		
US 20050025708	A1	20050203	US 2004-919257	20040817
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PRIORITY APPLN. INFO.:			US 2000-528990	A 20000320
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			WO 2001-US8406	W 20010315
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			US 2002-222819	A1 20020819
			<--	

ED Entered STN: 28 Sep 2001

AB The present invention relates to injectable compns. comprising

biocompatible, swellable, hydrophilic, non-toxic and substantially spherical microspheres and a biocompatible carrier for use in dermal augmentation. The present invention further relates to methods of dermal augmentation, particularly for the treatment of skin contour deficiencies, using the injectable compns. For example, microspheres were prepared from (a) 58 g of sodium chloride and 27 g of sodium acetate in 100 mL of water, (b) 400 mL of glycerol, (c) monomers, i.e., 90 g of N-tris-hydroxymethylmethacrylamide, 35 mg of diethylaminoethylacrylamide and 10 g of N,N-methylenebis-acrylamide, and (d) gelatin, under heating at 60-70°. The total volume of the mixture was adjusted to 980 mL by addition of hot water and then 20 mL of a 70 mg/mL ammonium persulfate solution and 4 mL of N,N,N',N'-tetramethylethylenediamine were added. This solution was poured into paraffin oil at 50-70° under stirring. After a few minutes, the polymerization reaction of acrylic monomers is manifested by an increase of temperature. The microspheres are then recovered by decanting, washed carefully, screened and sterilized in an autoclave in a buffered medium. The microspheres, after screen calibration, possess the characteristics desired for dermal augmentation, including a marked cationic charge and an effective adhesion agent (gelatin or denatured collagen).

IT 111-30-8, Glutaraldehyde
(crosslinking agent; preparation of polymeric injectable and swellable microspheres for dermal augmentation)

RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)

OHC—(CH₂)₃—CHO

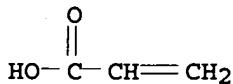
IT 58374-38-2, Sodium acrylate-vinyl alcohol copolymer
(preparation of polymeric injectable and swellable microspheres for dermal augmentation)

RN 58374-38-2 HCPLUS

CN 2-Propenoic acid, sodium salt (1:1), polymer with ethenol (CA INDEX NAME)

CM 1

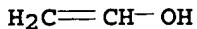
CRN 7446-81-3
CMF C₃ H₄ O₂ . Na



● Na

CM 2

CRN 557-75-5
CMF C₂ H₄ O



IC ICM A61F002-00
 ICS A61L027-24; A61K009-50
 CC 63-7 (Pharmaceuticals)
 IT Polyoxyalkylenes, biological studies
 (crosslinked; preparation of polymeric injectable and
 swellable microspheres for dermal augmentation)
 IT Anti-inflammatory agents
 Antibacterial agents
 Antihistamines
 Biocompatibility
 Crosslinking agents
 Skin, disease
 Swelling, physical
 (preparation of polymeric injectable and swellable microspheres for
 dermal augmentation)
 IT 9003-04-7, Sodium polyacrylate 25322-68-3, Polyethylene oxide
 (crosslinked; preparation of polymeric injectable and
 swellable microspheres for dermal augmentation)
 IT 111-30-8, Glutaraldehyde
 (crosslinking agent; preparation of polymeric injectable and
 swellable microspheres for dermal augmentation)
 IT 79-06-1D, Acrylamide, derivs., polymers 79-10-7D, Acrylic acid,
 esters, copolymers with vinyl acetate 108-05-4D, Vinyl acetate,
 copolymers with acrylic acid esters 127-09-3, Sodium acetate
 1309-38-2, Magnetite (Fe₃O₄), biological studies 7439-89-6D, Iron,
 salts, biological studies 7439-95-4D, Magnesium, salts, biological
 studies 7440-09-7D, Potassium, salts, biological studies
 7440-23-5D, Sodium, salts, biological studies 7440-66-6D, Zinc,
 salts, biological studies 7440-70-2D, Calcium, salts, biological
 studies 7647-14-5, Sodium chloride, biological studies 7727-43-7,
 Barium sulfate 7727-54-0, Ammonium persulfate 9003-05-8,
 Acrylamide polymer 9003-53-6, Polystyrene 25549-84-2, Sodium
 acrylate polymer 25969-89-5, Methyl maleate-vinyl acetate copolymer
 26426-80-2, Isobutylene-maleic anhydride copolymer 58374-38-2
 , Sodium acrylate-vinyl alcohol copolymer 59017-50-4D, acyl derivs.
 107830-79-5, Starch-acrylonitrile graft copolymer 944130-99-8,
 Rhodamine isothiocyanate
 (preparation of polymeric injectable and swellable microspheres for
 dermal augmentation)

L74 ANSWER 9 OF 29 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2001:7600 HCPLUS
 DOCUMENT NUMBER: 134:76427
 TITLE: Non-adherent nasal, sinus and otic packing and
 method for processing sponge materials in
 fabrication of packings
 INVENTOR(S): Cercone, Ronald J.
 PATENT ASSIGNEE(S): Xomed Surgical Products, Inc., USA
 SOURCE: U.S., 8 pp., Division of U.S. Ser. No. 778,141.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 6169123 B1 20010102 US 1998-121053 19980723

US 6214895 B1 20010410 US 2000-661896 20000914

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PRIORITY APPLN. INFO.: US 1997-778141 A3 19970102

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US 1998-121053 A3 19980723

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ED Entered STN: 04 Jan 2001

AB Nasal, sinus and otic packings exhibiting a less adherent surface when in contact with tissue and being less traumatic on removal are prepared. In a first embodiment, polyvinyl acetal foamed packing material undergoes a surface modification imparting a non-adherent hydrogel coated surface. The surface modification is accomplished after final processing and fabrication of the packing product shape. The packing material is subjected to either an atomized spray of an aqueous solution of EtOH or a poly(vinyl acetate)/poly(vinyl alc.) copolymer. In another embodiment, a foamed polyvinyl acetal material is produced by crosslinking polyvinyl alc. with an organic compound containing 2 hydroxyl reactive groups in the presence of an inert gas. An aqueous solution containing PVP is mixed into the reaction during crosslinking. The recovered sponge material foam product is cut or molded into a packing thereby resulting in the production of a packing having a uniformly dispersed gel throughout and as an outer hydrogel coating. Nasal, sinus and otic packings prepared by these methods exhibit a less adherent surface upon contact with tissue and are far less traumatic to the tissue upon removal.

IC ICM C08J009-28

ICS C08J009-30

INCL 521141000

CC 63-7 (Pharmaceuticals)

Section cross-reference(s): 38

IT Crosslinking

Ear

Nose

Shear

(nasal and sinus and otic packing and method for processing sponge materials)

IT Polyvinyl acetals

(nasal and sinus and otic packing and method for processing sponge materials)

IT Aldehydes, reactions

(nasal and sinus and otic packing and method for processing sponge materials)

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L74 ANSWER 10 OF 29 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:764805 HCAPLUS

DOCUMENT NUMBER: 132:298738

TITLE: Synthesis and characterization of noncrosslinked and crosslinked poly(vinyl alcohol-co-crotonic acid) hydrogels

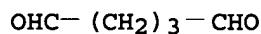
AUTHOR(S): Ranjha, N. M.

CORPORATE SOURCE: Department of Pharmacy, Bahauddin Zakariya University, Multan, 60800, Pak.

SOURCE: Saudi Pharmaceutical Journal (1999), 7(3), 130-136

CODEN: SPJOEM; ISSN: 1319-0164

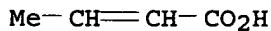
PUBLISHER: Saudi Pharmaceutical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 05 Dec 1999
 AB The possibility of combining hydrophilic (VAL) monomer with crotonic acid (CA) monomer and to explore their potential for drug delivery was studied. Six noncrosslinked poly(vinyl acetate-co-crotonic acid) (VAC/CA) samples 50:50 to 95:05 mol% were prepared. The monomer feed ratio affects the mol. weight and the polymerization hindered by increasing the CA fraction in the monomer mixture. This is most probably due to differences in reactivity ratios. All the samples were hydrolyzed in methanolic KOH solution. Salt form was converted into acid form by adding acetic acid. In poly(vinyl alc.-co-crotonic acid) (VAL/CA) polymers, the OH and the COOH groups seem to be partially involved in a lactonized form. By increasing the COOH groups, the amount of OH groups reduced through lactone ring formation. The COOH groups are few in nos. and might be at scattered positions in the chain, making the gels unable to show pH-sensitivity. One sample of VAL/CA containing monomeric composition (VAC/CA 90:10) was crosslinked with glutaraldehyde, with various crosslinking ratios. A remarkable effect of crosslinking ratio was observed on swelling and phenazone release.
 IT 111-30-8, Glutaraldehyde
 (poly(vinyl alc. (Ac)-co-crotonic acid) hydrogels
 crosslinked with)
 RN 111-30-8 HCPLUS
 CN Pentanedral (CA INDEX NAME)



IT 31134-93-7P, Crotonic acid-vinyl alcohol copolymer
 (synthesis and characterization of noncrosslinked and
 crosslinked poly(vinyl alc.-co-crotonic acid) hydrogels)
 RN 31134-93-7 HCPLUS
 CN 2-Butenoic acid, polymer with ethenol (CA INDEX NAME)

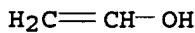
CM 1

CRN 3724-65-0
 CMF C4 H6 O2



CM 2

CRN 557-75-5
 CMF C2 H4 O



CC 63-6 (Pharmaceuticals)
 Section cross-reference(s): 35
 IT Hydrogels

(synthesis and characterization of noncrosslinked and crosslinked poly(vinyl alc.-co-crotonic acid) hydrogels)

IT 111-30-8, Glutaraldehyde
(poly(vinyl alc.(Ac)-co-crotonic acid) hydrogels
crosslinked with)

IT 25609-89-6P, Crotonic acid-vinyl acetate copolymer
(synthesis and characterization of noncrosslinked and crosslinked poly(vinyl acetate-co-crotonic acid) hydrogels)

IT 31134-93-7P, Crotonic acid-vinyl alcohol copolymer
(synthesis and characterization of noncrosslinked and crosslinked poly(vinyl alc.-co-crotonic acid) hydrogels)

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L74 ANSWER 11 OF 29 HCPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1996:607499 HCPLUS
DOCUMENT NUMBER: 125:257280
ORIGINAL REFERENCE NO.: 125:47871a,47874a
TITLE: Crosslinked polymers for preparation of contact lenses
INVENTOR(S): Mueller, Beat
PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.
SOURCE: PCT Int. Appl., 59 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

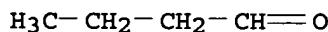
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9624074	A1	19960808	WO 1996-EP245	19960122
			<--	
W: AL, AM, AU, BB, BG, BR, CA, CN, CZ, EE, FI, GE, HU, IS, JP, KP, KR, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, AZ, BY, KG, KZ, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9644386	A	19960821	AU 1996-44386	19950122
			<--	
EP 807265	A1	19971119	EP 1996-900604	19960122
			<--	
EP 807265	B1	20000412		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE				
JP 10513408	T	19981222	JP 1996-523211	19960122
			<--	
JP 3782451	B2	20060607		
AT 191796	T	20000415	AT 1996-900604	19960122
			<--	
ZA 9600825	A	19960805	ZA 1996-825	19960202
			<--	
US 5932674	A	19990803	US 1997-875535	19970730
			<--	
US 6265509	B1	20010724	US 1999-236158	19990122
			<--	
JP 2006193526	A	20060727	JP 2006-13475	20060123
			<--	
PRIORITY APPLN. INFO.:			CH 1995-312	A 19950203

<--
 JP 1996-523211 A3 19960122
 <--
 WO 1996-EP245 W 19960122
 <--
 US 1997-875535 A3 19970730
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OTHER SOURCE(S): MARPAT 125:257280

ED Entered STN: 12 Oct 1996

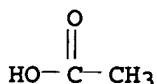
AB The invention relates to a novel process for the production of moldings, in particular contact lenses, in which a soluble prepolymer comprising units containing a crosslinkable group and at least one unit containing a modifier is crosslinked in solution, and to moldings, in particular contact lenses, obtainable by this process. The present invention likewise relates to novel prepolymers which can be employed in the novel process, in particular derivs. of a polyvinyl alc. having a mol weight of at least about 2000 which comprises from about 0.5 to about 80%, based on the number of hydroxyl groups in the polyvinyl alc., as disclosed in detail in the description, and to crosslinked polymers, either homopolymers or copolymers, made from these novel prepolymers, a process for the preparation of the novel prepolymers and the homopolymers and copolymers obtainable therefrom, to moldings made from said homopolymers or copolymers, and to a process for the production of contact lenses using said homopolymers or copolymers. Thus, 300 g of a polyvinyl alc. was dissolved in 800 g water at 95°, then 30 g N-(4,4-dieethoxybutyl)acrylamide (preparation given), 500 g acetic acid, 100 g concentrate HCl and sufficient water to give a total of 2000 g of reaction solution was added and the mixture was stirred at 20° for 20 h; then the pH was adjusted to 7 and the polymer solution was filtered and purified by ultrafiltration. Irgacure 2959 0.3% was added to a 30% solution of above polymer in a polypropylene contact lens mold, the solution was exposed to UV lamp for 6 s and the lenses were removed from the mold.
 IT 123-72-8DP, Butyraldehyde, reaction products with vinyl alc.-acetal copolymer acetate 182074-10-8P
 182074-11-9P
 (crosslinked polymers for preparation of contact lenses)
 RN 123-72-8 HCPLUS
 CN Butanal (CA INDEX NAME)



RN 182074-10-8 HCPLUS
 CN 2-Propenoic acid, 2-methyl-, polymer with ethenol, acetate (9CI) (CA INDEX NAME)

CM 1

CRN 64-19-7
 CMF C2 H4 O2

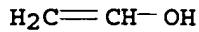


CM 2

CRN 31212-98-3
 CMF (C₄ H₆ O₂ . C₂ H₄ O)x
 CCI PMS

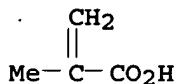
CM 3

CRN 557-75-5
 CMF C₂ H₄ O



CM 4

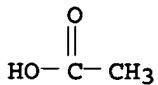
CRN 79-41-4
 CMF C₄ H₆ O₂



RN 182074-11-9 HCPLUS
 CN 2-Propenoic acid, polymer with ethenol, acetate (9CI) (CA INDEX NAME)

CM 1

CRN 64-19-7
 CMF C₂ H₄ O₂

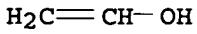


CM 2

CRN 26299-60-5
 CMF (C₃ H₄ O₂ . C₂ H₄ O)x
 CCI PMS

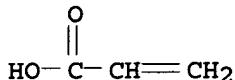
CM 3

CRN 557-75-5
 CMF C₂ H₄ O



CM 4

CRN 79-10-7
CMF C3 H4 O2



IC ICM G02B001-04
ICS C08F008-00
CC 63-7 (Pharmaceuticals)
Section cross-reference(s): 35, 38
ST polyvinyl alc crosslinking contact lens
IT Lenses
(contact, crosslinked polymers for preparation of contact lenses)
IT 123-72-8DP, Butyraldehyde, reaction products with vinyl alc.-acetal copolymer acetate 4170-30-3DP, Crotonaldehyde, reaction products with vinyl alc.-acetal copolymer acetate 9003-20-7DP, Mowilith 30, reaction products with acetals 181863-00-3DP, reaction products with modifier acetals 181863-00-3P 181863-01-4P 182074-05-1P 182074-06-2P 182074-07-3P 182074-08-4P 182074-09-5P 182074-10-8P
182074-11-9P
(crosslinked polymers for preparation of contact lenses)
IT 64-19-7, Acetic acid, reactions 79-30-1, Isobutyryl chloride 108-24-7, Acetic anhydride 108-30-5, Succinic anhydride, reactions 616-45-5, Pyrrolidone 766-39-2, Dimethylmaleic anhydride 814-68-6, Acryloyl chloride 920-46-7, Methacryloyl chloride 2935-90-2 9002-89-5, Polyvinyl alcohol 22483-09-6, Aminoacetaldehyde dimethyl acetal 29513-26-6, 2-Vinyl-4,4-dimethylazlactone 103612-76-6
(crosslinked polymers for preparation of contact lenses)
IT 6346-09-4P, 4-Aminobutyraldehyde diethyl acetal 24214-09-3P 49707-23-5P, Acrylamidoacetaldehyde dimethyl acetal 62005-48-5P 95984-11-5P 97387-72-9P 174510-31-7P 181862-86-2P 181862-87-3P 181862-88-4P 181862-89-5P 181862-90-8P 181862-91-9P 181862-92-0P 181862-93-1P
(crosslinked polymers for preparation of contact lenses)

L74 ANSWER 12 OF 29 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1995:948930 HCAPLUS
DOCUMENT NUMBER: 123:342586
ORIGINAL REFERENCE NO.: 123:61475a,61478a
TITLE: Preparation and properties of poly(vinyl alcohol)-N-isopropylacrylamide-based graft terpolymer membranes
AUTHOR(S): Ogata, Tomonari; Kurihara, Seiji; Nonaka, Takamasa
CORPORATE SOURCE: Faculty of Engineering, Kumamoto University, Kumamoto, 860, Japan
SOURCE: Nippon Kagaku Kaishi (1995), (11), 909-15
CODEN: NKAKB8; ISSN: 0369-4577
PUBLISHER: Nippon Kagakkai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
ED Entered STN: 29 Nov 1995
AB Thermosensitive terpolymers were synthesized by graft polymerization of N-isopropylacrylamide (NIPPAm) and monomers such as Bu methacrylate (BMA), 2-hydroxyethyl methacrylate (HE-MA) and methacrylic acid (MAc)

on poly(vinyl alc.) (PVA) and the terpolymer membranes were prepared by evaporating solvent from their DMSO solution. The introduction of hydrophobic monomer such as BMA and of hydrophilic monomer such as HEMA decreased and increased the swelling of the terpolymer membranes in water and shifted the transition temperature to lower and higher temperature, resp. On

the

other hand, the PVA-g-(NIPAAm-MAc) membranes containing carboxyl groups exhibited an abnormal swelling behavior in water depending on the content of carboxyl groups. The swelling ratio of PVA-g-(NIPAAm-MAc5) (Number after MAc represents the weight ratio of MAc in monomer mixture in feed) and PVA-g-(NIPAAm-MAc10) increased with increasing temperature, although the swelling ratio of PVA-g-NIPAAm decreased with increasing temperature, in particular, decreased drastically above 30°. The swelling ratio of PVA-g-(NIPAAm-MAc30) and PVA-g-(NIPAAm-MAc50) was very small in the temperature range (10°-45°) and the phase-transition temperature of the membranes could not be observed. This abnormal swelling behavior is mainly attributed to the hydrogen bonding between amide groups and carboxyl groups and hydrophobic interaction based on α -Me groups in MAc moiety in the terpolymer membranes. Temperature dependence of the swelling of PVA-g-(NIPAAm-MAc5) at increasing temperature was not the same as that at decreasing temperature. The permeation of Li⁺ through PVA-g-(NIPAAm-MAc5) treated with glutaraldehyde was investigated by using the system containing 0.005 mol·dm⁻³ HCl (left side) and 0.005 mol·dm⁻³ LiOH (right side). The transport rate of Li⁺ increased with increasing temperature up to 30° and then decreased drastically above the temperature. The uphill transport of Li⁺ was also observed at 25° and 30°.

IT 171204-71-0P, Glutaraldehyde-N-isopropylacrylamide-methacrylic acid-vinyl alcohol graft copolymer

(preparation and properties of poly(vinyl alc.)-isopropylacrylamide-based graft terpolymer membranes)

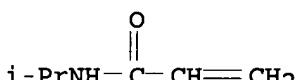
RN 171204-71-0 HCPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with ethenol, N-(1-methylethyl)-2-propenamide and pentanedral, graft (9CI) (CA INDEX NAME)

CM 1

CRN 2210-25-5

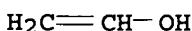
CMF C6 H11 N O



CM 2

CRN 557-75-5

CMF C2 H4 O



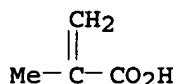
CM 3

CRN 111-30-8
CMF C5 H8 O2

OHC—(CH₂)₃—CHO

CM 4

CRN 79-41-4
CMF C₄ H₆ O₂



CC 38-3 (Plastics Fabrication and Uses).
 IT 126539-81-9P, N-Isopropylacrylamide-vinyl alcohol graft copolymer
 160926-61-4P 171204-68-5P, Butyl
 methacrylate-N-isopropylacrylamide-vinyl alcohol graft copolymer
 171204-69-6P, 2-Hydroxyethyl methacrylate-N-isopropylacrylamide-vinyl
 alcohol graft copolymer 171204-70-9P,
 N-Isopropylacrylamide-methacrylic acid-vinyl alcohol graft copolymer
 171204-71-0P, Glutaraldehyde-N-isopropylacrylamide-methacrylic
 acid-vinyl alcohol graft copolymer
 (preparation and properties of poly(vinyl
 alc.)-isopropylacrylamide-based graft terpolymer membranes)

L74 ANSWER 13 OF 29 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1995:828321 HCPLUS
 DOCUMENT NUMBER: 123:199832
 ORIGINAL REFERENCE NO.: 123:35697a,35700a
 TITLE: Extruded, rough-surfaced poly(vinyl butyral) (PVB)
 sheet and manufacturing method
 INVENTOR(S): Hopfe, Harold Herbert; Karagiannis, Aristotelis
 PATENT ASSIGNEE(S): Monsanto Co., USA
 SOURCE: PCT Int. Appl., 25 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9507940	A1	19950323	WO 1993-US8859	19930917
CA 2170510	A1	19950323	CA 1993-2170510	19930917
CA 2170510	C	20040330		
AU 9351319	A	19950403	AU 1993-51319	19930917
AU 681354	B2	19970828		
EP 719288	A1	19960703	EP 1993-922250	19930917

EP 719288	B1	19991201		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
BR 9307887	A	19960806	BR 1993-7887	19930917
<--				
JP 09502755	T	19970318	JP 1995-509142	19930917
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JP 3305721	B2	20020724		
AT 187180	T	19991215	AT 1993-922250	19930917
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SK 281573	B6	20010510	SK 1996-316	19930917
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CZ 288616	B6	20010815	CZ 1996-681	19930917
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CN 1102840	A	19950524	CN 1994-115319	19940916
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CN 1063463	C	20010321		
US 5595818	A	19970121	US 1995-387855	19950227
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PRIORITY APPLN. INFO.:			EP 1993-922250	A 19930917
<--				
WO 1993-US8859 19930917				
<--				

ED Entered STN: 04 Oct 1995
 AB In manufacturing the title sheet, used as an impact-dissipating layer in glass or rigid plastic laminates where the roughened surface facilitates air removal during the lamination process, a fraction of stiffly resilient particles of crosslinked PVB are randomly dispersed in the PVB matrix. On exiting an extrusion die opening the particles microscopically protrude from the sheet and roughen its surface. Thus, extrusion of a blend containing 90 parts PVB crosslinked (preparation given) with 0.01 phr glutaraldehyde (I) (matrix resin), 10 parts sep. prepared PVB crosslinked with 0.135 phr I (dispersed phase), and 32 parts dihexyl adipate plasticizer gave a 0.76-mm-thick sheet having a surface with average peak-to-valley height 63.3 μm , vs. 20.1 μm for a similar sheet containing no dispersed phase.
 IT 111-30-8DP, Glutaraldehyde, reaction products with poly(vinyl butyral)
 (crosslinked, dispersed phase in poly(vinyl butyral) matrix;
 extruded, rough-surfaced poly(vinyl butyral) sheet and manufacturing method)
 RN 111-30-8 HCPLUS
 CN Pentanedral (CA INDEX NAME)

OHC- $(\text{CH}_2)_3$ - CHO

IC ICM C08F008-28
 CC 35-8 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 38
 IT vinyl acetal polymers
 (butyral, glutaraldehyde-crosslinked, dispersed phase in poly(vinyl butyral) matrix; extruded, rough-surfaced poly(vinyl butyral) sheet and manufacturing method)
 IT 111-30-8DP, Glutaraldehyde, reaction products with poly(vinyl butyral)
 (crosslinked, dispersed phase in poly(vinyl butyral) matrix;
 extruded, rough-surfaced poly(vinyl butyral) sheet and manufacturing method)

L74 ANSWER 14 OF 29 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1991:609103 HCPLUS
 DOCUMENT NUMBER: 115:209103
 ORIGINAL REFERENCE NO.: 115:35693a,35696a
 TITLE: Osmotic and scattering properties of chemically crosslinked poly(vinyl alcohol) hydrogels
 AUTHOR(S): Geissler, Erik; Horkay, Ferenc; Hecht, Anne Marie
 CORPORATE SOURCE: Lab. Spectrom. Phys., Univ. Joseph Fourier
 Grenoble, St. Martin d'Heres, 38402, Fr.
 SOURCE: Macromolecules (1991), 24(22), 6006-11
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 15 Nov 1991
 AB Swelling pressure and shear modulus measurements are reported for glutaraldehyde-crosslinked poly(vinyl alc.) (I) hydrogels, and an attempt is made to correlate the macroscopic results with data obtained by small-angle x-ray scattering (SAXS) measurements performed on the same gel samples. The swelling pressure of the I gels can be satisfactorily described by a two-term equation consisting of a separable elastic and mixing contribution. The concentration dependence of the elastic term differs slightly from the classical theor. prediction. The mixing term follows a power-law behavior with an exponent close to that predicted by scaling theory. Osmotic pressure results obtained for aqueous I solns. are used to normalize the SAXS spectra to yield absolute scattering intensities. The scattering spectra of the gels are resolved into a static and a dynamic (solutionlike) component. The intensity of the latter is compared with values calculated from independent osmotic measurements. The second moments describing the static concentration fluctuations increase strongly with the crosslinking d.
 IT 111-30-8D, Glutaraldehyde, cyclic acetals with poly(vinyl alc.)
 (osmotic pressure and shear modulus of crosslinked hydrogels of, small-angle x-ray scattering in relation to)
 RN 111-30-8 HCPLUS
 CN Pentanedral (CA INDEX NAME)

OHC- (CH₂)₃ - CHO

CC 36-7 (Physical Properties of Synthetic High Polymers)
 IT Vinyl acetal polymers
 (glutarals, osmotic pressure and shear modulus of crosslinked hydrogels of, small-angle x-ray scattering in relation to)
 IT 111-30-8D, Glutaraldehyde, cyclic acetals with poly(vinyl alc.)
 (osmotic pressure and shear modulus of crosslinked hydrogels of, small-angle x-ray scattering in relation to)

L74 ANSWER 15 OF 29 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1991:473348 HCPLUS
 DOCUMENT NUMBER: 115:73348
 ORIGINAL REFERENCE NO.: 115:12681a,12684a
 TITLE: Composite pervaporation membrane and dewatering of organic compounds therewith
 INVENTOR(S): Leon, Nee Jean Maurice; Nguyen Quang Trong;

PATENT ASSIGNEE(S): Brueschke, Hartmut
 Gesellschaft fuer Trenntechnik m.b.H. (GFT),
 Germany
 SOURCE: Ger. Offen., 8 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3939867	A1	19910606	DE 1989-3939867 <--	19891201
CA 2046332	A1	19910602	CA 1990-2046332 <--	19901203
WO 9108043	A1	19910613	WO 1990-EP2074 <--	19901203
W: BR, CA, JP, KR, US EP 436128	A1	19910710	EP 1990-123133 <--	19901203
EP 436128 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE BR 9007088	B1	19950308 A	19920128	BR 1990-7088 <--
JP 04506766	T	19921126	JP 1991-501215 <--	19901203
US 5334314	A	19940802	US 1991-741508 <--	19911001
PRIORITY APPLN. INFO.:			DE 1989-3939841 <--	A 19891201
			DE 1989-3939867 <--	A 19891201
			WO 1990-EP2074 <--	A 19901203

ED Entered STN: 23 Aug 1991
 AB The title membrane has a poly(vinyl alc.) (I)-based separation layer which is **crosslinked** by the action of acids in the vapor phase. Thus, to a porous membrane prepared from nonwoven polyester fibers and polyacrylonitrile was applied an aqueous solution of I containing 0.05 mol maleic acid per mol of vinyl alc. units. The membrane was dried and treated with hot BrCH₂CH₂Br to effect **crosslinking**. The **crosslinked** membrane was used to dry HOAc containing 10-98% water, providing a permeate containing >99.8% water in all cases and was stable at ≤100°. Conventional I-based membranes lost their selectivity after a short time of operation.
 IT 111-30-8D, Pentanedial, cyclic acetals with poly(vinyl alc.) (**crosslinked**, complex pervaporation membranes containing, for dehydration and dewatering of organic compds.)
 RN 111-30-8 HCPLUS
 CN Pentanedial (CA INDEX NAME)

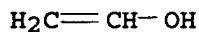
OHC—(CH₂)₃—CHO

IT 34229-80-6P, Maleic acid-vinyl alcohol copolymer (**crosslinked**, composite pervaporation membranes containing, for drying and dewatering of organic compds.)

RN 34229-80-6 HCAPLUS
 CN 2-Butenedioic acid (2Z)-, polymer with ethenol (CA INDEX NAME)

CM 1

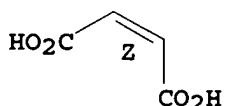
CRN 557-75-5
 CMF C2 H4 O



CM 2

CRN 110-16-7
 CMF C4 H4 O4

Double bond geometry as shown.



IC ICM B01D071-82
 ICS B01D071-38; B01D061-36; B01D069-12; C07B063-00
 CC 38-3 (Plastics Fabrication and Uses)
 ST polyvinyl alc membrane pervaporation; dewatering membrane polyvinyl alc; crosslinking polyvinyl alc membrane
 IT Crosslinking catalysts
 (acids, for poly(vinyl alc.) compns., in composite pervaporation membranes for dehydration and dewatering of organic compds.)
 IT Vinyl acetal polymers
 (formals, maleated, crosslinked, composite pervaporation membranes containing, for drying and dewatering of organic compds.)
 IT Vinyl acetal polymers
 (glutarals, crosslinked, composite pervaporation membranes containing, for drying and dewatering of organic compds.)
 IT Membranes
 (pervaporation, composites, crosslinked poly(vinyl alc.)-based, for dewatering and drying of organic compds.)
 IT 106-93-4, 1,2-Dibromoethane 107-06-2, 1,2-Dichloroethane, uses and miscellaneous 7647-01-0, Hydrochloric acid, uses and miscellaneous 7664-93-9, Sulfuric acid, uses and miscellaneous 7697-37-2, Nitric acid, uses and miscellaneous 7782-77-6, Nitrous acid 7782-99-2, Sulfurous acid, uses and miscellaneous 10035-10-6, Hydrobromic acid, uses and miscellaneous
 (catalysts, for crosslinking of poly(vinyl alc.)-based compns. in composite pervaporation membranes for dehydration and dewatering of organic compds.)
 IT 111-30-8D, Pentanedral, cyclic acetals with poly(vinyl alc.)
 (crosslinked, complex pervaporation membranes containing, for dehydration and dewatering of organic compds.)
 IT 56-81-5DP, 1,2,3-Propanetriol, reaction products with glutaraldehyde and poly(vinyl alc.)
 (crosslinked, composite pervaporation membranes containing, for drying and dehydration of organic compds.)
 IT 9002-89-5P, Poly(vinyl alcohol) 34229-80-6P, Maleic

acid-vinyl alcohol copolymer

(crosslinked, composite pervaporation membranes containing,
for drying and dewatering of organic compds.)

IT 64-17-5P, Ethanol, preparation 64-19-7P, Acetic acid, preparation
67-63-0P, 2-Propanol, preparation 77-92-9P, Citric acid, preparation
110-86-1P, Pyridine, preparation 123-86-4, Butyl acetate 141-78-6,
Ethyl acetate, preparation 629-14-1, Ethylene glycol diethyl ether
(dewatering of, composite pervaporation membranes based on
crosslinked poly(vinyl alc.) for)

L74 ANSWER 16 OF 29 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1990:407260 HCPLUS

DOCUMENT NUMBER: 113:7260

ORIGINAL REFERENCE NO.: 113:1393a,1396a

TITLE: Decay time distributions from dynamic light
scattering for aqueous poly(vinyl alcohol) gels
and semidilute solutions

AUTHOR(S): Fang, Liqi; Brown, Wyn

CORPORATE SOURCE: Inst. Phys. Chem., Univ. Uppsala, Uppsala, 751 21,
Swed.

SOURCE: Macromolecules (1990), 23(13), 3284-90
CODEN: MAMOBX; ISSN: 0024-9297

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 06 Jul 1990

AB Dynamic light scattering was used to obtain decay time distributions
for permanent poly(vinyl alc.) (I) gels and the corresponding semidil.
solns. by Laplace inversion of the autocorrelation functions. The
gels were prepared from solns. of narrow-mol.-weight-distribution polymers
by crosslinking using glutaraldehyde. The I concentration range extended
≤7% weight/volume Parallel measurements were made on the gel and
the corresponding solution as a function of temperature at 3-55°. Two
main relaxational modes typified the I solns., both relaxation rates
being diffusive. The fast relaxation characterized the diffusive
motions in the transient gel formed by interpenetration of mol.
domains. The slow mode was considered to derive from clusters or
groups of chains having a size that depended on concentration and only
slightly on temperature Formation of the permanent gel resulted in
disappearance of the slow mode and the gels were characterized by
single-exponential correlation functions.

IT 111-30-8D, Glutaraldehyde, cyclic acetals with poly(vinyl
alc.)

(crosslinked, dynamic light scattering by gels of, decay time
distribution in relation to)

RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)

OHC- (CH₂)₃- CHO

CC 36-7 (Physical Properties of Synthetic High Polymers)

IT Vinyl acetal polymers

(glutarals, crosslinked, dynamic light scattering by gels
of, decay time distributions in relation to)

IT 111-30-8D, Glutaraldehyde, cyclic acetals with poly(vinyl
alc.)

(crosslinked, dynamic light scattering by gels of, decay time
distribution in relation to)

L74 ANSWER 17 OF 29 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1989:575165 HCPLUS
 DOCUMENT NUMBER: 111:175165
 ORIGINAL REFERENCE NO.: 111:29191a,29194a
 TITLE: The effects of crosslinking on the equation of state of a polymer solution
 AUTHOR(S): Horkay, F.; Hecht, A. M.; Geissler, E.
 CORPORATE SOURCE: Dep. Colloid Sci., L. Eotvos Univ., Budapest, H-1088, Hung.
 SOURCE: Journal of Chemical Physics (1989), 91(4), 2706-11
 CODEN: JCPSA6; ISSN: 0021-9606
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 10 Nov 1989
 AB Measurements of the swelling pressure (ω) and shear modulus (G_s) in a set of poly(vinyl acetate) networks swollen to different degrees in PhMe and in acetone are reported, using solns. of the uncrosslinked polymer to obtain deswelling under known conditions of osmotic pressure. The ω can be completely described by the difference between 2 terms, each of which is a simple power law in the polymer volume fraction (ϕ). Identification of the subtractive term with that related to the elastic free energy of the network gives the volume elastic modulus (G_v). G_s , obtained from mech. measurements at constant volume, and G_v are found to coincide for these samples, and neither deviates measurably from a one-third power law dependence on ϕ , up to values of ϕ in excess of 0.4. The remaining term in ω of the networks behaves like the mixing term in a polymer solution, obeying good solvent scaling predictions as a function of concentration in both diluents. Its magnitude, however, is substantially smaller than the osmotic pressure of an equivalent uncrosslinked solution of infinite mol. weight. The difference between the crosslinked and uncrosslinked states conflicts with the assumption that the 2 mixing free energies are identical.
 IT 111-30-8D, Pentanedral, cyclic acetals with poly(vinyl alc.), acetylated
 (equation of state of, in solns., crosslinking effects in, swelling pressure, shear and elastic moduli in relation to)
 RN 111-30-8 HCPLUS
 CN Pentanedral (CA INDEX NAME)



CC 36-7 (Physical Properties of Synthetic High Polymers)
 IT vinyl acetal polymers
 (glutarals, acetylated, equation of state of, in solns., crosslinking effects in, swelling pressure, shear and elastic moduli in relation to)
 IT 111-30-8D, Pentanedral, cyclic acetals with poly(vinyl alc.), acetylated
 (equation of state of, in solns., crosslinking effects in, swelling pressure, shear and elastic moduli in relation to)

L74 ANSWER 18 OF 29 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1989:440221 HCPLUS
 DOCUMENT NUMBER: 111:40221
 ORIGINAL REFERENCE NO.: 111:6863a,6866a
 TITLE: Analysis of molecular characteristics of

crosslinked systems by gel-permeation chromatography

AUTHOR(S): Domnicheva, N. A.; Kogan, S. I.; Kuznetsova, V. A.; Sorokin, A. Ya.; Budtov, V. P.

CORPORATE SOURCE: Okht. Nauchno-Proizvod. Ob'edin. "Plastpolimer", Okhta, USSR

SOURCE: Vysokomolekulyarnye Soedineniya, Seriya A (1989), 31(3), 597-601

CODEN: VYSAAF; ISSN: 0507-5475

DOCUMENT TYPE: Journal

LANGUAGE: Russian

ED Entered STN: 05 Aug 1989

AB Gel permeation chromatog. (GPC) of aqueous poly(vinyl alc.) partially crosslinked with glutaraldehyde showed that GPC can provide valuable information on the structure of polymer solns. in which crosslinking occurs. A technique for separating the bimodal chromatograms into individual peaks was developed for interpreting the chromatograms and provided quant. data on mol. weight distribution and mol. parameters of long-chain branching.

IT 111-30-8D, Glutaraldehyde, acetals with poly(vinyl alc.) (mol. weight distribution and structure of crosslinked, gel chromatog. in determination of)

RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)

OHC—(CH₂)₃—CHO

CC 36-2 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 80

IT Vinyl acetal polymers (glutarals, mol. weight distribution and structure of crosslinked, gel chromatog. in determination of)

IT 111-30-8D, Glutaraldehyde, acetals with poly(vinyl alc.) (mol. weight distribution and structure of crosslinked, gel chromatog. in determination of)

L74 ANSWER 19 OF 29 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1988:571353 HCPLUS

DOCUMENT NUMBER: 109:171353

ORIGINAL REFERENCE NO.: 109:28429a,28432a

TITLE: Deswelling of gels induced by undirectional compression

AUTHOR(S): Horkay, Ferenc; Zrinyi, Miklos

CORPORATE SOURCE: Res. Lab. Inorg. Chem., Hung. Acad. Sci., Budapest, H-1112, Hung.

SOURCE: Biol. Synth. Polym. Networks (1988), 449-60. Editor(s): Kramer, Ole. Elsevier Appl. Sci.: London, UK.

CODEN: 56IBAE

DOCUMENT TYPE: Conference

LANGUAGE: English

ED Entered STN: 12 Nov 1988

AB Elastic and swelling properties of acetylated vinyl glutaral polymer gels swollen by good and θ solvents were studied. Deswelling was induced by undirectional compression of the gels and by lowering the chemical potential of the diluent in the surrounding liquid phase. Satisfactory agreement was found in both diluents between theor. and exptl. data from the effect of undirectional deformation on the concentration

of the gel. The equivalence of the response of the network to isotropic shrinkage and to undirectional compression was confirmed exptl.

IT 111-30-8D, cyclic acetals with poly(vinyl alc.), acetylated (crosslinked, gels, deswelling of, by undirectional compression)
 RN 111-30-8 HCPLUS
 CN Pentanedral (CA INDEX NAME)



CC 36-7 (Physical Properties of Synthetic High Polymers)

IT Vinyl acetal polymers (glutarals, acetylated, crosslinked, gels, deswelling of, by undirectional compression)

IT 111-30-8D, cyclic acetals with poly(vinyl alc.), acetylated (crosslinked, gels, deswelling of, by undirectional compression)

L74 ANSWER 20 OF 29 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1987:558224 HCPLUS

DOCUMENT NUMBER: 107:158224

ORIGINAL REFERENCE NO.: 107:25409a,25412a

TITLE: Application of modified poly(vinyl alcohol) films as separators in alkaline batteries: preparation and characterization studies

AUTHOR(S): Fabianowski, W.; Dobryszycki, J.

CORPORATE SOURCE: Dep. Chem., Warsaw Univ., Warsaw, 00-664, Pol.

SOURCE: Synth. Polym. Membr., Proc. Microsymp. Macromol., 29th (1987), Meeting Date 1986, 557-63.

Editor(s): Sediacek, Blahoslav; Kahovec, Jaroslav.
de Gruyter: Berlin, Fed. Rep. Ger.

CODEN: 56BMAC

DOCUMENT TYPE: Conference

LANGUAGE: English

ED Entered STN: 31 Oct 1987

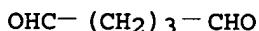
AB Double-laminated, regenerated, cellulose-modified polyvinyl alc. (PVA) films were used in a Ag2O/Zn battery as separators; the battery had a self-discharge of 2.7 and 15% in storage (13 wk) at room temperature and 45°, resp. The durability and elec. parameters of the PVA films were improved by treatment with acrolein, polyacrylic acid, and carboxylic group compds.

IT 111-30-8D, Glutaraldehyde, acetal polymers with polyvinyl alc.

26299-60-5, Acrylic acid-vinyl alcohol copolymer (cellophane modified with, battery separators, for silver oxide-zinc batteries)

RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)



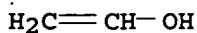
RN 26299-60-5 HCPLUS

CN 2-Propenoic acid, polymer with ethenol (CA INDEX NAME)

CM 1

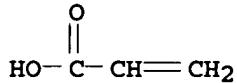
CRN 557-75-5

CMF C2 H4 O



CM 2

CRN 79-10-7
 CMF C3 H4 O2



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 38

ST battery separator crosslinked polyvinyl alc; silver oxide
 zinc battery separator; polyacrylic acid battery separator
 modification

IT Batteries, primary
 (separators, crosslinked and modified polyvinyl alc., for
 silver oxide-zinc batteries)

IT 107-02-8D, Acrolein, acetal polymers with polyvinyl alc.
 111-30-8D, Glutaraldehyde, acetal polymers with polyvinyl alc.
 26299-60-5, Acrylic acid-vinyl alcohol copolymer
 (cellophane modified with, battery separators, for silver
 oxide-zinc batteries)

L74 ANSWER 21 OF 29 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1987:497330 HCPLUS

DOCUMENT NUMBER: 107:97330

ORIGINAL REFERENCE NO.: 107:15893a,15896a

TITLE: Crosslinked poly(vinyl butyral)

PATENT ASSIGNEE(S): Monsanto Co., USA

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62010106	A	19870119	JP 1986-152850 ---	19860701
JP 2523282	B2	19960807		
CA 1276744	C	19901120	CA 1986-512847 ---	19860630
AU 8659434	A	19870108	AU 1986-59434 ---	19860701
AU 581092	B2	19890209		
EP 211818	A1	19870225	EP 1986-870096 ---	19860701
EP 211818	B1	19910612		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AT 64401	T	19910615	AT 1986-870096 ---	19860701

US 4814529	A	19890321	US 1986-933837	19861124
			<--	
US 4874814	A	19891017	US 1989-316564	19890227
			<--	
JP 08231639	A	19960910	JP 1996-24138	19960209
			<--	
PRIORITY APPLN. INFO.:			US 1985-751116	A 19850702
			<--	
			EP 1986-870096	A 19860701
			<--	

ED Entered STN: 19 Sep 1987

AB Poly(vinyl butyral) having balanced high-temperature modulus properties and useful in safety glass laminates is prepared by selective crosslinking of poly(vinyl alc.) using dialdehydes such as glutaraldehyde (I) in the presence of butyraldehyde. Thus, a mixture containing 8% aqueous poly(vinyl alc.) (>98% saponified) 1250, butyraldehyde 70, 8 6 and 50% aqueous I 0.06 g was treated with 5.7 mL 35% aqueous HNO₃ and the resulting mixture was kept at 16-20° for 24 min and heated at 75° for 2.5 h, giving a resin (II) with viscosity 215 cP vs. 175 in the absence of I. II (100 parts) with 32 parts dihexyl adipate was extruded to give a 0.76-mm thick film having melt viscosity 0.706 + 105 Pa.s.

IT 111-30-8, Glutaraldehyde
(crosslinking agents, for vinyl acetal polymers)

RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)

OHC—(CH₂)₃—CHO

IC ICM C08F008-28
ICS B29C047-00; C08F016-38; C08L029-14
ICI B29K029-00, B29K105-00
CC 35-8 (Chemistry of Synthetic High Polymers)
IT Vinyl acetal polymers
(butyral, crosslinking of, by dialdehydes)
IT 111-30-8, Glutaraldehyde 141-31-1 1675-54-3,
Bisphenol-A-diglycidyl ether 34074-28-7 80135-26-8
(crosslinking agents, for vinyl acetal polymers)

L74 ANSWER 22 OF 29 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1986:51479 HCPLUS

DOCUMENT NUMBER: 104:51479

ORIGINAL REFERENCE NO.: 104:8319a,8322a

TITLE: Intramolecular crosslinking of poly(vinyl alcohol)

AUTHOR(S): Gebben, Bert; Van den Berg, Hans W. A.; Bargeman, Dick; Smolders, Cees A.

CORPORATE SOURCE: Sekt. Phys., Tech. Hochsch. Leuna-Merseburg, Merseburg, DDR-4200, Ger. Dem. Rep.

SOURCE: Polymer (1985), 26(11), 1737-40
CODEN: POLMAG; ISSN: 0032-3861

DOCUMENT TYPE: Journal

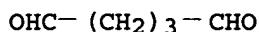
LANGUAGE: English

ED Entered STN: 23 Feb 1986

AB Poly(vinyl alc.) [9002-89-5] was crosslinked in dilute solution (concentrate 0.1%) with glutaraldehyde [111-30-8]. The reaction product was characterized by viscometry and gel permeation chromatog. (GPC). The intrinsic viscosity decreased with increasing degree of crosslinking and did not depend on temperature GPC revealed that the

reaction product was not homogeneous, but consisted of a mixture of particles with different sizes, possibly both intra- and intermolecularly crosslinked mols. The intramolecularly crosslinked mols. were smaller in size than the initial polymer mols. and their size depended on the degree of crosslinking. They possessed a narrow particle size distribution even if the initial polymer sample had a broad mol. weight distribution.

IT 111-30-8
 (crosslinking agents, intramol., for poly(vinyl alc.))
 RN 111-30-8 HCPLUS
 CN Pentanedral (CA INDEX NAME)

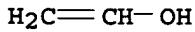


CC 37-6 (Plastics Manufacture and Processing)
 Section cross-reference(s): 35
 IT Vinyl acetal polymers
 (formation of, in intramol. crosslinking of poly(vinyl alc.) with glutaraldehyde)
 IT 111-30-8
 (crosslinking agents, intramol., for poly(vinyl alc.))

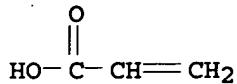
L74 ANSWER 23 OF 29 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1985:47206 HCPLUS
 DOCUMENT NUMBER: 102:47206
 ORIGINAL REFERENCE NO.: 102:7433a,7436a
 TITLE: Acetalation of poly(vinyl alcohol) fibers by glutaraldehyde
 AUTHOR(S): Lobova, A. B.; Goncharova, N. A.; Shamolina, I. I.; Vol'f, L. A.
 CORPORATE SOURCE: USSR
 SOURCE: Khimicheskie Volokna (1984), (6), 39-40
 CODEN: KVLKA4; ISSN: 0023-1118
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 ED Entered STN: 09 Feb 1985
 AB The degree of acetalation of vinal fibers with glutaraldehyde (I) varied from 2.0 to 36.2 mol%, depending on the concentration (1.5-5.0%) of I, bath temperature (20-80°), reaction time (20-120 min), and concentration (0.25-5%) of HCl. Fibers having maximum degree of acetalation and min. 0.5% shrinkage in boiling water were obtained in a bath containing 0.25% HCl and 5% I, at 60° in 120 min. These fibers, when grafted with acrylic acid, gave cation exchangers having static exchange capacity 4.4 mmol NaOH/g.
 IT 26299-60-5P
 (graft, fiber, cation exchangers, manufacture of, acetalation with glutaraldehyde in)
 RN 26299-60-5 HCPLUS
 CN 2-Propenoic acid, polymer with ethenol (CA INDEX NAME)

CM 1

CRN 557-75-5
 CMF C2 H4 O



CM 2

CRN 79-10-7
CMF C3 H4 O2

IT 111-30-8
 (reaction of, with vinal fibers, in cation exchanger manufacture)
 RN 111-30-8 HCPLUS
 CN Pentanodial (CA INDEX NAME)

OHC- (CH₂)₃ - CHO

CC 40-2 (Textiles)
 Section cross-reference(s): 38
 IT 26299-60-5P
 (graft, fiber, cation exchangers, manufacture of, acetalation with
 glutaraldehyde in)
 IT 111-30-8
 (reaction of, with vinal fibers, in cation exchanger manufacture)

L74 ANSWER 24 OF 29 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1984:12290 HCPLUS
 DOCUMENT NUMBER: 100:12290
 ORIGINAL REFERENCE NO.: 100:1929a,1932a
 TITLE: Chemical oxidizability of organic components in
 water
 AUTHOR(S): Janicke, W.
 CORPORATE SOURCE: Fed. Rep. Ger.
 SOURCE: WaBoLu-Berichte (1983), (1), 114 pp.
 CODEN: WBLBD6; ISSN: 0172-7702
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 ED Entered STN: 12 May 1984
 AB The calculated COD values of 582 chemical compds. are compared to the COD
 values determined exptl. by the Cr₂O₇²⁻, Cr₂O₇²⁻ and Ag, and MnO₄⁻ methods.
 IT 123-72-8 35326-33-1D, lactonized
 (COD of, exptl. and calculated values of)
 RN 123-72-8 HCPLUS
 CN Butanal (CA INDEX NAME)

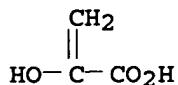
H₃C-CH₂-CH₂-CH=O

RN 35326-33-1 HCPLUS
 CN 2-Propenoic acid, 2-hydroxy-, homopolymer (CA INDEX NAME)

CM 1

CRN 19071-34-2

CMF C3 H4 O3



CC 61-3 (Water)
 IT 103-69-5 103-71-9, biological studies 103-72-0 103-84-4
 104-12-1 104-40-5 105-54-4 105-60-2, biological studies
 106-40-1 106-42-3, biological studies 106-44-5, biological studies
 106-46-7 106-47-8, properties 106-48-9 106-50-3, properties
 106-51-4, biological studies 106-89-8, biological studies 106-93-4
 107-02-8, biological studies 107-05-1 107-06-2, biological studies
 107-07-3, biological studies 107-11-9 107-13-1, biological studies
 107-15-3, biological studies 107-19-7 107-21-1, biological studies
 107-43-7 107-92-6, biological studies 107-95-9 108-05-4,
 biological studies 108-10-1 108-20-3 108-38-3, biological
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 properties 108-70-3 108-73-6 108-75-8 108-80-5 108-86-1,
 properties 108-87-2 108-88-3, biological studies 108-90-7,
 biological studies 108-91-8, biological studies 108-93-0,
 properties 108-94-1, properties 108-95-2, properties 108-98-5,
 properties 109-43-3 109-52-4, biological studies 109-57-9
 109-73-9, biological studies 109-86-4 109-89-7, biological studies
 109-97-7 109-99-9, properties 110-00-9 110-02-1 110-15-6,
 properties 110-16-7, biological studies 110-19-0 110-44-1
 110-54-3, properties 110-60-1 110-82-7, properties 110-83-8,
 properties 110-86-1, properties 110-88-3, properties 110-89-4,
 properties 110-91-8, properties 111-13-7 111-20-6, biological
 studies 111-26-2 111-27-3, properties 111-42-2, biological
 studies 111-46-6, biological studies 111-55-7 111-57-9
 111-69-3 111-76-2 111-87-5, properties 112-27-6 112-30-1
 112-31-2 112-34-5 112-80-1, biological studies 112-85-6
 112-92-5 112-95-8 115-29-7 115-77-5, biological studies
 117-81-7 118-74-1 118-91-2 118-92-3 119-33-5 119-53-9
 119-61-9, biological studies 119-64-2 120-12-7, properties
 120-51-4 120-61-6 120-72-9, properties 120-80-9, biological
 studies 120-82-1 120-83-2 121-14-2 121-44-8, biological
 studies 121-57-3 121-69-7, biological studies 122-14-5
 122-32-7 122-39-4, properties 122-66-7 122-79-2 123-01-3
 123-30-8 123-31-9, properties 123-42-2 123-54-6, biological
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 123-91-1, properties 124-04-9, biological studies 124-07-2,
 biological studies 124-09-4, biological studies 124-18-5
 124-30-1 124-40-3, biological studies 126-73-8, biological studies
 127-17-3, biological studies 127-18-4, biological studies 127-27-5
 128-37-0, biological studies 128-97-2 129-00-0, properties
 130-22-3 130-95-0 131-11-3 131-17-9 132-64-9 134-32-7
 134-81-6 135-01-3 135-19-3, biological studies 137-26-8
 138-86-3 139-13-9 139-66-2 140-22-7 140-88-5 141-32-2
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 141-82-2, biological studies 141-97-9 142-62-1, biological studies
 142-82-5, properties 142-96-1 144-49-0 144-62-7, biological
 studies 147-85-3, properties 148-24-3, properties 149-91-7,
 biological studies 150-76-5 151-21-3, biological studies
 151-50-8 151-56-4, properties 206-44-0 208-96-8 218-01-9
 230-27-3 260-94-6 271-89-6 288-32-4, properties 288-88-0
 291-64-5 298-12-4 302-17-0 302-72-7 306-94-5 309-00-2

313-72-4	320-51-4	330-55-2	333-20-0	334-48-5	352-93-2
357-57-3	367-12-4	371-41-5	392-56-3	420-04-2	431-03-8
452-77-7	462-06-6	463-40-1	473-90-5	489-84-9	495-40-9
495-69-2	496-11-7	499-75-2	512-69-6	514-10-3	517-60-2
530-57-4	534-22-5	534-52-1	538-71-6	540-84-1	540-88-5
541-73-1	542-59-6	542-75-6	544-12-7	544-76-3	548-62-9
554-12-1	555-43-1	555-44-2	556-52-5	563-41-7	576-24-9
576-26-1	577-11-7	583-60-8	593-51-1	594-14-9	603-35-0,
properties	608-93-5	615-50-9	619-08-9	622-45-7	623-37-0
	623-56-3				

(COD of, exptl. and calculated values of)

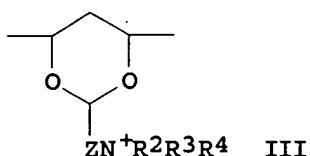
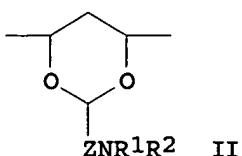
IT	625-38-7	626-43-7	626-93-7	627-42-9	628-71-7	630-06-8
	634-66-2	634-93-5	645-56-7	683-18-1	697-82-5	759-73-9
	818-08-6	933-75-5	989-38-8	1077-16-3	1113-02-6	1398-61-4
	1402-10-4	1570-64-5	1746-81-2	1762-95-4	1912-24-9	2028-63-9
	2050-68-2	2217-07-4	2321-07-5	2353-45-9	2409-55-4	2435-53-2
	2642-71-9	2667-20-1	2795-39-3	3147-45-3	3724-65-0	3766-60-7
	4170-30-3	5138-90-9	5424-20-4	5460-09-3	5470-11-1	5875-45-6
	6152-67-6	6638-79-5	7397-62-8	7440-44-0, properties	7704-34-9,	
	properties	7773-06-0	7803-57-8	8061-52-7	8062-15-5	9000-69-5
	9002-86-2	9002-89-5	9004-32-4	9004-34-6, properties	9004-53-9	
	9004-67-5	9004-98-2	9005-07-6	9005-25-8, properties	9005-38-3	
	9005-79-2, properties	9014-63-5	9016-45-9	10034-93-2		
	10039-54-0	10265-92-6	11067-82-6	13098-39-0	16368-91-5	
	24549-06-2	25153-40-6	25155-30-0	25322-68-3	26027-37-2	
	27216-04-2	30525-89-4	30915-64-1	34592-47-7	35326-33-1D	
	, lactonized	39156-41-7	53148-86-0	54480-49-8	88123-09-5	
	88123-10-8					

(COD of, exptl. and calculated values of)

L74 ANSWER 25 OF 29 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1983:199187 HCPLUS
 DOCUMENT NUMBER: 98:199187
 ORIGINAL REFERENCE NO.: 98:30299a,30302a
 TITLE: Porous anion-exchange resin
 PATENT ASSIGNEE(S): Mitsubishi Chemical Industries Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 58011046	A	19830121	JP 1981-109092	19810713
JP 01060296	B	19891221		<--
PRIORITY APPLN. INFO.:			JP 1981-109092	19810713
			<--	

ED Entered STN: 12 May 1984
 GI



AB Porous crosslinked poly(vinyl alc.) (I) [9002-89-5] having sp. surface area ≥ 0.5 m²/g and (or) pore volume ≥ 0.1 mL/g and XZCHO (X = halogen, Z = alkylene) or its acetal react in the presence of acid and then with an amine to give an anion-exchange resin having II or III units. Alternatively, linear I, crosslinking agent, and XZCHO in aqueous salt solution are suspension-polymerized and treated with an amine. R₁R₂NZCHO or R₂R₃R₄NZCHO (R₁ = H or alkyl; R₂, R₃, R₄ = alkyl or hydroxyalkyl) may be used in the 1-step process. The resins have high exchange rate and capacity, and low swelling. Thus, I (Gohsenol NL-05) 20, NaCl 20, and CaCl₂·2H₂O 26 g in 173 mL H₂O was stirred at 96° for 0.5 h to dissolve I; cooling to 20°, adding 8 mL 25% glutaraldehyde and 20 mL 1N HCl, dispersing in 500 mL C₂H₄Cl₂ containing 0.2 g cellulose acetate butyrate by stirring for 1 h, heating at 60° for 3.5 h under reflux to effect crosslinking, cooling, draining, mixing with 500 mL 10% NaCl, heating at 85° to remove C₂H₄Cl₂, cooling, and washing gave crosslinked I (78% H₂O, sp. surface area 47 m²/g). The latter 40 g (9 g dry basis), 55 mL dioxane, 90 g 40% ClCH₂CHO, and 8 mL 1N HCl were stirred at 60° for 2.5 h and at 80° for 12 h under reflux; cooling, filtering, and washing with dioxane and H₂O gave 14 g resin (dry basis) (89% yield). The product (18 g; 14 g dry basis), 15 mL dioxane, and 31 mL 50% aqueous Me₂NH were stirred at 40° for 4.5 and at 80° for 25 h, cooled, filtered, washed, placed in a column, and washed in order with 2N HCl, 2N NaOH, and H₂O. The H₂O content was 51%, exchange capacity 1.91 mequiv/g, swelling 2.8 mL/g, sp. surface area 16.5 m²/g, and pore volume 0.1 mL/g.

IC B01J041-12; C08F008-28; C08F008-32

CC 37-3 (Plastics Manufacture and Processing)

crosslinked polyvinyl alc anion exchanger

SI Crosslinked polyvinyl IT Vinyl acetal polymers

(dimethylamino)acetals, and quaternization products, as anion-exchange resins)

IT Quaternary ammonium compounds, compounds

(aldehydes, reaction products with crosslinked poly(vinyl alc.), anion exchangers)

IT Anion exchangers

(crosslinked poly(vinyl alc.) reaction products with
aminoaldehydes)

IT Crosslinking agents

(glutaraldehyde, for poly(vinyl alc.), in anion exchanger manufacture)

IT Aldehydes, reactions

(amino, reaction products with crosslinked poly(vinyl alc.), anion exchangers)

IT Aldehydes, reactions

(halo, reaction of, with **crosslinked poly(vinyl alc.)** and amines)

IT 107-20-0D, reaction products with crosslinked poly(vinyl alc.) and dimethylamine 124-40-3D, reaction products with crosslinked poly(vinyl alc.) and chloroacetaldehyde .

9002-89-5D, glutaraldehyde-crosslinked, reaction products with chloroacetaldehyde and dimethylamine (anion exchangers)

IT 111-30-8
(poly(vinyl alc.) crosslinked by, reaction products with aminoaldehydes, anion exchangers)

L74 ANSWER 26 OF 29 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1982:493666 HCAPLUS
DOCUMENT NUMBER: 97:93666
ORIGINAL REFERENCE NO.: 97:15625a,15628a
TITLE: Acetal group-containing polymers with improved heat resistance and adhesive properties
INVENTOR(S): Uspenskaya, Z. R.; Tyazhlo, N. I.; Arkhipova, I. N.; Trofimova, N. V.; Lavrova, N. V.; Knyazeva, T. V.; Kuz'mina, G. N.
PATENT ASSIGNEE(S): USSR
SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1982, (17), 121.
CODEN: URXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 925966	A1	19820507	SU 1980-2951552 <--	19800704
PRIORITY APPLN. INFO.:			SU 1980-2951552 <--	19800704

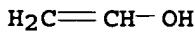
ED Entered STN: 12 May 1984
AB Acrylic acid (I)-vinyl alc. (II) copolymer-C2-6 alkanal-furfural (III) reaction products (mol. weight 20,000-55,000), having I content 1-5, II content 28-35, alkanal-based acetal-group content 48-65, and III-based acetal-group content 4-14 mol% exhibited good heat resistance and adhesive properties.
IT 123-72-8D, reaction products with acrylic acid-vinyl alc. copolymer and furfural 26299-60-5D, reaction products with alkanals and furfural (cyclic acetal group-containing, adhesives, heat-resistant)
RN 123-72-8 HCAPLUS
CN Butanal (CA INDEX NAME)



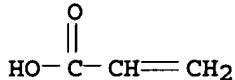
RN 26299-60-5 HCAPLUS
CN 2-Propenoic acid, polymer with ethenol (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O



CM 2

CRN 79-10-7
CMF C3 H4 O2

IC C08F216-06; C08F216-38; C08F220-06
 CC 38-3 (Plastics Fabrication and Uses)
 IT 66-25-1D, reaction products with acrylic acid-vinyl alc. copolymer and furfural 75-07-0D, reaction products with acrylic acid-vinyl alc. copolymer and furfural 98-01-1D, reaction products with acrylic acid-vinyl alc. copolymer and alkanals 110-62-3D, reaction products with acrylic acid-vinyl alc. copolymer and furfural 123-38-6D, reaction products with acrylic acid-vinyl alc. copolymer and furfural 123-72-8D, reaction products with acrylic acid-vinyl alc. copolymer and furfural 26299-60-5D, reaction products with alkanals and furfural
 (cyclic acetal group-containing, adhesives, heat-resistant)

L74 ANSWER 27 OF 29 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1982:202578 HCAPLUS

DOCUMENT NUMBER: 96:202578

ORIGINAL REFERENCE NO.: 96:33391a

TITLE: Alkaline battery containing a separator of a crosslinked copolymer of vinyl alcohol and unsaturated carboxylic acid

INVENTOR(S): Hsu, Li Chen; Philipp, Warren H.; Sheibley, Dean W.; Gonzalez-Sanabria, Olga D.

PATENT ASSIGNEE(S): United States National Aeronautics and Space Administration, USA

SOURCE: U. S. Pat. Appl., 12 pp. Avail. NTIS Order No. PAT-APPL-6-282 298.

CODEN: XAXXAV

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 282298	A0	19820101	US 1981-282298	19810710
US 4505998	A	19850319		<--
PRIORITY APPLN. INFO.:			US 1981-282298	19810710
			<--	

ED Entered STN: 12 May 1984

AB The title separator is insol. in water, has excellent zincate diffusion and O-barrier properties, and a low elec. resistivity.

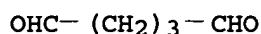
Crosslinking with a polyaldehyde is preferred. Thus, an acrylic acid-vinyl alc. copolymer [26299-60-5] was crosslinked by mixing 100 g of 5% aqueous copolymer with glutaraldehyde [111-30-8] 0.81, H₂O 25, and Triton X 100 [9002-93-1] 2 g and heating to 100-120°. Battery separators in accordance with the invention have: an area resistivity of 1

$\Omega\text{-cm}^2$, volume resistivity of 20 $\Omega\text{-cm}$, Zn dendrite penetration rate of $3 + 10^{-4}$ cm/min, and zincate diffusion rate of $2 + 10^{-6}$ mol/cm³·min.

IT 111-30-8
(crosslinking agents, for acrylic acid-vinyl alc.
copolymer for alkaline-battery separator)

RN 111-30-8 HCPLUS

CN Pentanodial (CA INDEX NAME)

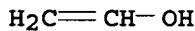


IT 26299-60-5
(polyaldehyde-crosslinked, alkaline-battery separator)
RN 26299-60-5 HCPLUS
CN 2-Propenoic acid, polymer with ethenol (CA INDEX NAME)

CM 1

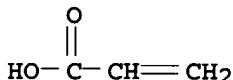
CRN 557-75-5

CMF C2 H4 O



CM 2

CRN 79-10-7
CMF C3 H4 O2



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38

IT Electric resistance
(of acrylic acid-vinyl alc. polyaldehyde-crosslinked
copolymers)

IT Batteries, secondary
(separators, alkaline-, acrylic acid-vinyl alc. polyaldehyde-
crosslinked copolymer)

IT 9002-93-1
(acrylic acid-vinyl alc. polyaldehyde-crosslinked
copolymers containing, for alkaline-battery separators)

IT 111-30-8 623-27-8 81752-41-2
(crosslinking agents, for acrylic acid-vinyl alc.
copolymer for alkaline-battery separator)

IT 26299-60-5
(polyaldehyde-crosslinked, alkaline-battery separator)

L74 ANSWER 28 OF 29 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1982:36102 HCPLUS

DOCUMENT NUMBER: 96:36102

ORIGINAL REFERENCE NO.: 96:5988h,5989a

TITLE: Preparation of magnetic amine resins by polymer modification
 AUTHOR(S): Eldridge, R. J.
 CORPORATE SOURCE: Div. Chem. Technol., CSIRO, South Melbourne, 3205, Australia
 SOURCE: Journal of Macromolecular Science, Chemistry (1982), A17(1), 167-73
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 12 May 1984
 AB Weak acid ion exchangers prepared by grafting acrylic acid on crosslinked poly(vinyl alc.) microbeads containing magnetic iron oxide were converted to strong or weak base resins by reaction with glycidyltrimethylammonium chloride or with epichlorohydrin and diethylamine, resp. Capacities ≤ 2.6 mequiv/g were obtained, but the products were susceptible to saponification. Similar resins prepared by grafting methacrylate esters hydrolyzed more slowly, indicating that hydrolysis occurred at the ester linkage.

IT 80450-83-5P
 (graft, ion exchangers, preparation and alkaline stability of magnetic)
 RN 80450-83-5 HCPLUS
 CN 2-Propenoic acid, polymer with ethenol and pentanodial, 2-hydroxy-3-(trimethylammonio)propyl ester, chloride (9CI) (CA INDEX NAME)

CM 1

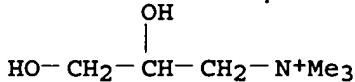
CRN 202605-70-7

CMF C6 H16 N O2 . x (C5 H8 O2 . C3 H4 O2 . C2 H4 O)x

CM 2

CRN 44814-66-6

CMF C6 H16 N O2



CM 3

CRN 202519-07-1

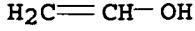
CMF (C5 H8 O2 . C3 H4 O2 . C2 H4 O)x

CCI PMS

CM 4

CRN 557-75-5

CMF C2 H4 O



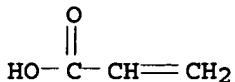
CM 5

CRN 111-30-8
CMF C5 H8 O2

OHC—(CH₂)₃—CHO

CM 6

CRN 79-10-7
CMF C3 H4 O2



CC 37-3 (Plastics Manufacture and Processing)
IT 100-43-6DP, polymers, quaternized 106-89-8DP, reaction products with acrylic acid-vinyl alc. graft polymers and diethylamine 109-89-7DP, reaction products with acrylic acid-vinyl alc. graft polymers and epichlorohydrin 80388-87-0DP, reaction products with diethylamine and epichlorohydrin 80388-89-2P 80450-83-5P
(graft, ion exchangers, preparation and alkaline stability of magnetic)

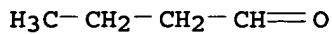
L74 ANSWER 29 OF 29 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1981:48292 HCPLUS
DOCUMENT NUMBER: 94:48292
ORIGINAL REFERENCE NO.: 94:7893a,7896a
TITLE: Thermosetting adhesives
PATENT ASSIGNEE(S): Sekisui Chemical Co. Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

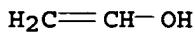
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 55108443	A	19800820	JP 1979-16285	19790214
JP 61050499	B	19861105		<--
PRIORITY APPLN. INFO.:			JP 1979-16285	A 19790214
			<--	

ED Entered STN: 12 May 1984
AB Compns. of vinyl acetal polymer containing 0.5-20 mol % CO₂H groups or their salts and polyepoxides are useful as adhesives in a wide range of temperature. Thus, 326 g of 2.:-:97.8 (molar) maleic acid-vinyl alc. copolymer in 3212 g H₂O was treated with 187 g butanal in the presence of 58 g 35% HCl at 12° for 30 min, 174 g 35% HCl added, and the mixture warmed to 40°, stirred 2 h, neutralized with Na₂CO₃, and washed with 20 to give 471 g polymer (I). I (100 g) was dissolved in 500 g EtoCH₂CH₂OH, mixed with 5 g tetraethylene glycol diglycidyl ether [17626-93-6] and applied to degreased Fe plates. When 2 of those Fe plates were pressed together at 150° and 20 kg/cm² for 10 m in, the adhesive strength of the bonding was 330 and 165 kg/cm²

at 20 and 150°, resp.
 IT 123-72-8D, acetals with maleic acid-vinyl alc. copolymers
 34229-80-6D, butyral
 (adhesives, **crosslinking agents for**)
 RN 123-72-8 HCPLUS
 CN Butanal (CA INDEX NAME)

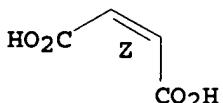


RN 34229-80-6 HCPLUS
 CN 2-Butenedioic acid (2Z)-, polymer with ethenol (CA INDEX NAME)
 CM 1
 CRN 557-75-5
 CMF C2 H4 O



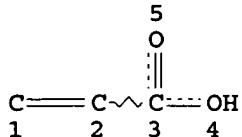
CM 2
 CRN 110-16-7
 CMF C4 H4 O4

Double bond geometry as shown.



IC C08L029-14; C08L029-14; C08L063-00
 CC 36-6 (Plastics Manufacture and Processing)
 ST vinyl acetal polymer adhesive; maleic acid ethenol copolymer; butyral
 vinyl alc copolymer; polyepoxide **crosslinking agent**; heat
 resistance adhesive
 IT Adhesives
 (maleic acid-vinyl alc. copolymer butyral, **crosslinking**
 agents for)
 IT **Crosslinking agents**
 (tetraethylene glycol diglycidyl ether, for maleic acid-vinyl alc.
 copolymer butyral, for adhesives)
 IT 123-72-8D, acetals with maleic acid-vinyl alc. copolymers
 34229-80-6D, butyral
 (adhesives, **crosslinking agents for**)
 IT 17626-93-6
 (**crosslinking agents**, for maleic acid-vinyl alc.
 copolymer butyral, for adhesives)

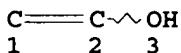
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 2/BI)
 L7 STR



NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 5

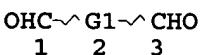
STEREO ATTRIBUTES: NONE
 L9 SCR 2043
 L11 STR



NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
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 NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE
 L13 962 SEA FILE=REGISTRY SSS FUL L11 AND L7 AND L9
 L15 STR



VAR G1=AK/CY
 NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE
 L17 6 SEA FILE=REGISTRY SUB=L13 SSS FUL L15
 L18 956 SEA FILE=REGISTRY ABB=ON PLU=ON L13 NOT L17
 L19 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L17
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 L21 12977 SEA FILE=HCAPLUS ABB=ON PLU=ON L2
 L22 9 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND L21
 L23 59532 SEA FILE=HCAPLUS ABB=ON PLU=ON ALDEHYDES/CV
 L24 23508 SEA FILE=HCAPLUS ABB=ON PLU=ON "ALDEHYDES, REACTIONS"/CV

L25	5 SEA FILE=HCAPLUS ABB=ON	PLU=ON	L20 AND (L23 OR L24)
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L27	425286 SEA FILE=HCAPLUS ABB=ON	PLU=ON	ALDEHYDES+PFT,NT/CT
L28	53 SEA FILE=HCAPLUS ABB=ON	PLU=ON	L20 AND (L26 OR L27)
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L30	30 SEA FILE=HCAPLUS ABB=ON	PLU=ON	L25 OR L29
L31	21 SEA FILE=HCAPLUS ABB=ON	PLU=ON	L30 AND (1840-2003)/PRY,AY ,PY
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L51	10 SEA FILE=HCAPLUS ABB=ON	PLU=ON	L50 AND POLYMER?/SC,SX
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L55	1 SEA FILE=REGISTRY ABB=ON	PLU=ON	NONANEDIAL/CN
L56	1 SEA FILE=REGISTRY ABB=ON	PLU=ON	BUTYRALDEHYDE/CN
L58	26576 SEA FILE=HCAPLUS ABB=ON	PLU=ON	(L54 OR L55 OR L56)
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L69	263 SEA FILE=REGISTRY ABB=ON	PLU=ON	123-72-8/CRN
L70	7 SEA FILE=REGISTRY ABB=ON	PLU=ON	L13 AND ((L67 OR L68 OR L69))
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L73	15 SEA FILE=HCAPLUS ABB=ON	PLU=ON	L65 OR L72
L74	29 SEA FILE=HCAPLUS ABB=ON	PLU=ON	L73 OR L52
L75	12 SEA FILE=HCAPLUS ABB=ON	PLU=ON	L53 NOT L74

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L75 ANSWER 1 OF 12 HCPLUS COPYRIGHT 2008 ACS on STM
 ACCESSION NUMBER: 2002:185229 HCPLUS
 DOCUMENT NUMBER: 136:249490
 TITLE: Polymer, polymer microfiber, polymer nanofiber and applications including filter structures
 INVENTOR(S): Chung, Hoo Y.; Hall, John R. B.; Gogins, Mark A.; Crofoot, Douglas G.; Weik, Thomas M.
 PATENT ASSIGNEE(S): Donaldson Company, Inc., USA; Donaldson Co Inc
 SOURCE: PCT Int. Appl., 92 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 7
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002020668	A2	20020314	WO 2001-US24948	20010809 <--
WO 2002020668	A3	20030724		
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MC, NL, PT, SE, TR				
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US 7070640	B2	20060704		
US 20070012007	A1	20070118	US 2004-894848 <--	20040719
US 7179317	B2	20070220		
US 20050183405	A1	20050825	US 2005-110625 <--	20050420
US 7090712	B2	20060815		
US 20060117730	A1	20060608	US 2006-331555 <--	20060116
US 7270693	B2	20070918		
US 20070271883	A1	20071129	US 2006-398788 <--	20060406
US 7318852	B2	20080115		
US 20070283808	A1	20071213	US 2006-398922 <--	20060406
US 7316723	B2	20080108		
US 20060196359	A1	20060907	US 2006-411577 <--	20060425
US 7270692	B2	20070918		
US 20070271891	A1	20071129	US 2006-592402 <--	20061102
US 7318853	B2	20080115		
AU 2007201000	A1	20070329	AU 2007-201000 <--	20070307
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US 20080010959	A1	20080117	US 2007-901686 <--	20070918
IN 2007DN09873	A	20080118	IN 2007-DN9873 <--	20071219
US 20080110822	A1	20080515	US 2008-8919 <--	20080114
PRIORITY APPLN. INFO.:			US 2000-230138P <--	P 20000905
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			WO 2001-US24948 <--	W 20010809
			EP 2001-962050 <--	A3 20010810
			EP 2001-963922 <--	A3 20010810
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US 2003-676189	A3 20030930	
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US 2003-741788	A1 20031219	
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US 2004-894848	A1 20040719	
US 2005-110625	A1 20050420	
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US 2006-411577	A1 20060425	

ED Entered STN: 15 Mar 2002

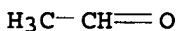
AB Polymer mixts. are conditioned or treated at elevated temps. so as to form a single chemical specie or an annealed blend are useful for formation of micro- and nanofibers for filters with improved efficiency and increased resistance to temperature and humidity. Typical fibers were manufactured by electrospinning blends of 50-80 parts SVP 651 (nylon 6-nylon 66-nylon 610 copolymer) and 20-50 parts GP 5137 (HCHO-phenol resin) and heating the fibers at, e.g., 90° for 12 h for the 65:35 blend.

IT 75-07-0D, Acetaldehyde, reaction products with alcs. and polyamides

(blends, fibers; polymer micro- or nanofibers for filters with improved heat and humidity resistance)

RN 75-07-0 HCPLUS

CN Acetaldehyde (CA INDEX NAME)



IT 26299-60-5P, Acrylic acid-vinyl alcohol copolymer
(fibers; polymer micro- or nanofibers for filters with improved heat and humidity resistance)

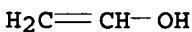
RN 26299-60-5 HCPLUS

CN 2-Propenoic acid, polymer with ethenol (CA INDEX NAME)

CM 1

CRN 557-75-5

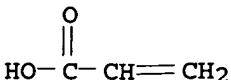
CMF C2 H4 O



CM 2

CRN 79-10-7

CMF C3 H4 O2



IT 50-00-0DP, Formaldehyde, reaction products with nylon 66 and methanol
 (polyamide blends, fibers; polymer micro- or nanofibers for filters with improved heat and humidity resistance)
 RN 50-00-0 HCAPLUS
 CN Formaldehyde (CA INDEX NAME)

$\text{H}_2\text{C}=\text{O}$

IC ICM C08L101-00
 ICS C08K005-13; D01F006-00; B01D024-00; C08L101-00; C08L065-00
 CC 47-2 (Apparatus and Plant Equipment)
 Section cross-reference(s): 40
 ST polyamide phenolic resin crosslinked microfiber filter; nanofiber filter phenolic resin crosslinked polyamide; heat treatment polymer blend microfiber filter
 IT Polyamide fibers, uses
 (phenolic resin-crosslinked; polymer micro- or nanofibers for filters with improved heat and humidity resistance)
 IT Phenolic resins, uses
 (polyamide crosslinked by,; polymer micro- or nanofibers for filters with improved heat and humidity resistance)
 IT Aldehydes, uses
 (reaction products, with polyamides and alcs., blends, polymers; polymer micro- or nanofibers for filters with improved heat and humidity resistance)
 IT Crosslinking
 (thermal; of polymer blends for micro- or nanofibers for filters with improved heat and humidity resistance)
 IT 64-17-5D, Ethanol, reaction products with aldehydes and polyamides 67-63-0, Isopropanol, uses 75-07-0D, Acetaldehyde, reaction products with alcs. and polyamides 112-92-5D, Stearyl alcohol, reaction products with aldehydes and polyamides 9002-85-1, Polyvinylidene chloride 9002-86-2, PVC 24937-79-9, Polyvinylidene fluoride 25038-59-9, PET polymer, uses
 (blends, fibers; polymer micro- or nanofibers for filters with improved heat and humidity resistance)
 IT 9006-67-1P, Formaldehyde-melamine-vinyl alcohol copolymer 26299-60-5P, Acrylic acid-vinyl alcohol copolymer
 (fibers; polymer micro- or nanofibers for filters with improved heat and humidity resistance)
 IT 50-00-0DP, Formaldehyde, reaction products with nylon 66 and methanol 67-56-1DP, Methanol, reaction products with nylon 66 and formaldehyde 32131-17-2DP, Nylon 66, reaction products with formaldehyde and methanol 38244-52-9DP, reaction products with formaldehyde and methanol
 (polyamide blends, fibers; polymer micro- or nanofibers for filters with improved heat and humidity resistance)

L75 ANSWER 2 OF 12 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1999:267428 HCAPLUS
 DOCUMENT NUMBER: 130:326413
 TITLE: Preparation of modified polyvinyl acetals and their solutions for transparent coatings
 INVENTOR(S): Miyake, Yoshitaka; Kamiyama, Takashi
 PATENT ASSIGNEE(S): Sekisui Chemical Co. Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF

DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11116620	A	19990427	JP 1997-281966	19971015
JP 3739192	B2	20060125		<--
PRIORITY APPLN. INFO.:			JP 1997-281966	19971015
			<--	

ED Entered STN: 30 Apr 1999
 AB Modified polyvinyl acetals having acetalization degree \leq 12 mol% are prepared by reacting aqueous solns. of modified poly(vinyl alcs.) with aromatic aldehydes in the presence of 0.005-0.03% concentration of acid catalysts, where the modified poly(vinyl alcs.) contain hydrophilic groups of CO_2M , SO_3M , OSO_3M , $\text{P}(\text{OM})_2$, and/or $\text{P}(\text{R})(\text{O})\text{OM}$ ($\text{M} = \text{H, Li, Na, K}$; $\text{R} = \text{H, C}_1\text{-20 alkyl}$), tertiary amines, and/or quaternary ammonium salts. The title solns. are manufactured by dissolving the modified polyvinyl acetals in 80/20-20/80 mixts. of $\text{H}_2\text{O}/\text{alcs.}$ Thus, itaconic acid-modified poly(vinyl alc.) (d.p. 2000, saponification degree 88 mol%) in H_2O was reacted with benzaldehyde in the presence of 0.01% HCl to give a polymer precipitate, which was treated with aqueous NaOH, dried, and then dissolved in a 3:2 mixture of $\text{H}_2\text{O}/\text{iso-PrOH}$. The obtained solution of the polymer (acetalization degree 8 mol%) was applied on a film and dried to give a coating with high transparency.
 IT 34229-80-6DP, Maleic acid-vinyl alcohol copolymer, reaction products with aromatic aldehydes 68508-47-4DP, Itaconic acid-vinyl alcohol copolymer, reaction products with aromatic aldehydes (preparation of modified polyvinyl acetals and their aqueous alc. solns. for transparent coatings)
 RN 34229-80-6 HCPLUS
 CN 2-Butenedioic acid (2Z)-, polymer with ethenol (CA INDEX NAME)

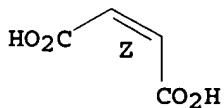
CM 1

CRN 557-75-5
CMF C2 H4 O $\text{H}_2\text{C}=\text{CH}-\text{OH}$

CM 2

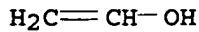
CRN 110-16-7
CMF C4 H4 O4

Double bond geometry as shown.

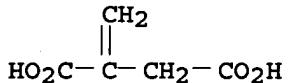


RN 68508-47-4 HCPLUS
 CN Butanedioic acid, 2-methylene-, polymer with ethenol (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O

CM 2

CRN 97-65-4
CMF C5 H6 O4

IC ICM C08F008-28
 ICS C08F016-38; C08L029-14
 CC 42-10 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 35
 IT Aldehydes, uses
 (aromatic, cyclic acetals with modified poly(vinyl alc.); preparation of modified polyvinyl acetals and their aqueous alc. solns. for transparent coatings)
 IT 100-52-7DP, Benzaldehyde, cyclic acetals with modified poly(vinyl alc.), uses 122-78-1DP, Phenylacetaldehyde, cyclic acetals with modified poly(vinyl alc.) 34229-80-6DP, Maleic acid-vinyl alcohol copolymer, reaction products with aromatic aldehydes 68508-47-4DP, Itaconic acid-vinyl alcohol copolymer, reaction products with aromatic aldehydes
 (preparation of modified polyvinyl acetals and their aqueous alc. solns. for transparent coatings)

L75 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1998:568785 HCAPLUS
 DOCUMENT NUMBER: 129:179120
 ORIGINAL REFERENCE NO.: 129:36313a,36316a
 TITLE: Fluid loss control agents, and compositions for cementing oil wells containing the agents
 INVENTOR(S): Moulin, Eric
 PATENT ASSIGNEE(S): Sofitech N.V., Belg.; Schlumberger Canada Limited; Compagnie Des Services Dowell Schlumberger
 SOURCE: PCT Int. Appl., 13 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9835918	A1	19980820	WO 1998-EP774	19980211

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DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP,
 KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK,
 MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL,
 TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW
 RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES,
 FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG,
 CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

FR 2759364	A1	19980814	FR 1997-1848	19970212
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CA 2279955	C	20070807		
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EP 970026	A1	20000112	EP 1998-908088	19980211
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EP 970026	B1	20020605		
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NO 324966	B1	20080114		
US 6180689	B1	20010130	US 1999-367363	19991026
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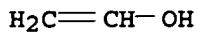
ED Entered STN: 07 Sep 1998
 AB The fluid loss control agents, comprising a microgel obtained by crosslinking poly(vinyl alc.) (I), i.e., reacting I in solution with agents capable of condensing with ≥ 2 alc. functions at pH < 10 and at concentration of the crosslinking agent with respect to the monomer units of the I 0.1-5 mol.%, addnl. contain a surfactant selected from polyvinylpyrrolidone, phenol-styryl derivs., N-C₁₂-alkylpyrrolidones, alkoxylated C₁₄-alcs., and water-soluble copolymers of vinylpyrrolidone, e.g., vinyl acetate (vinyl content <50%). The microgel and the surfactant are compatible with a wide range of petroleum industry-type cement additives and produce gas-tight compns. A cement slurry, (d. 1.89 g/cm³) was produced from portland cement, liquid antifoaming agent 0.03, liquid retardant 0.04, polynaphthalenesulfoante-type dispersant 0.05, and crosslinked I-based fluid loss control agent 3.65 gal/42-lb sack of cement to which had been added polyvinylpyrrolidone surfactant, gave fluid loss at 85° 36, vs. 590 mL without the surfactant.
 IT 107-02-8D, Acrolein, derivs., polymers with vinyl alc.
 34229-80-6, Maleic acid-vinyl alcohol copolymer
 (fluid loss control agents containing surfactant and; for mortar compns. for cementing of wells)
 RN 107-02-8 HCPLUS
 CN 2-Propenal (CA INDEX NAME)



RN 34229-80-6 HCPLUS
 CN 2-Butenedioic acid (2Z)-, polymer with ethenol (CA INDEX NAME)

CM 1

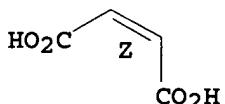
CRN 557-75-5
CMF C2 H4 O



CM 2

CRN 110-16-7
CMF C4 H4 O4

Double bond geometry as shown.

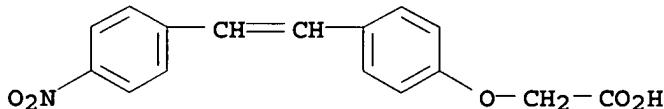


IC ICM C04B024-26
ICS C04B103-40
CC 58-3 (Cement, Concrete, and Related Building Materials)
ST plasticizer fluid loss control agent mortar; **crosslinking**
polyvinyl alc plasticizer; surfactant **crosslinking** polyvinyl
alc; polyvinylpyrrolidone surfactant; well cementing mortar
IT Bentonite, uses
(fluid loss control agents for mortar compns. containing
crosslinked poly(vinyl alc.) and surfactant and)
IT Plasticizers
(fluid loss control agents; well-cementing with mortar containing
crosslinked poly(vinyl alc.) and surfactant as)
IT Cement (construction material)
(portland; fluid loss control agents for mortar compns. containing
crosslinked poly(vinyl alc.) and surfactant and)
IT Aminoplasts
(sulfonated, salts; fluid loss control agents for mortar compns.
containing **crosslinked** poly(vinyl alc.) and surfactant and)
IT Mortar
(well-cementing with; **crosslinked** poly(vinyl alc.) and
surfactant as fluid loss control agent in)
IT 107-02-8D, Acrolein, derivs., polymers with vinyl alc.
32630-65-2, Glutaraldehyde-vinyl alcohol copolymer 34229-80-6
, Maleic acid-vinyl alcohol copolymer 112755-00-7, Oxalic acid-vinyl
alcohol copolymer 211362-19-5 211362-21-9
(fluid loss control agents containing surfactant and; for mortar
compns. for cementing of wells)
IT 9003-08-1D, Melamine, polymer with formaldehyde, sulfonated, salts
9017-33-8D, Formaldehyde-naphthalenesulfonic acid copolymer, salts
(fluid loss control agents for mortar compns. containing
crosslinked poly(vinyl alc.) and surfactant and)
IT 9003-39-8, Polyvinylpyrrolidone 25086-89-9, Vinyl
acetate-vinylpyrrolidone copolymer
(surfactant, fluid loss control agents containing **crosslinked**
poly(vinyl alc.) and; for mortar compns. for cementing of wells)
IT 108-95-2D, Phenol, styryl derivs., uses
(surfactants, fluid loss control agents containing **crosslinked**
poly(vinyl alc.) and; for mortar compns. for cementing of wells)

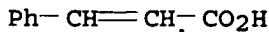
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L75 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1997:444744 HCAPLUS
 DOCUMENT NUMBER: 127:162527
 ORIGINAL REFERENCE NO.: 127:31511a,31514a
 TITLE: The effect of photo-crosslinking on the orientation stability of polyvinyl alcohol containing 4-nitro-4'-alkoxystilbene and cinnamyl pendent groups
 AUTHOR(S): Feng, Zhiming; Lin, Weiping; Ye, Cheng
 CORPORATE SOURCE: Organic Solid Lab., Institute of Chemistry, Chinese Academy of Sciences, Beijing, 100080, Peop. Rep. China
 SOURCE: Chinese Journal of Polymer Science (1997), 15(2), 154-161
 CODEN: CJPSEG; ISSN: 0256-7679
 PUBLISHER: Science Press
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 17 Jul 1997
 AB Crosslinking is one of the effective routes for improving the orientation stability of poled polymer films. Poly(vinyl alc.) containing 4-nitro-4'-alkoxystilbene and photocrosslinkable cinnamyl groups as side chains has been synthesized. The in-situ simultaneous photocrosslinking/poling of the synthesized polymer films has been performed. The second order nonlinear optical coefficient d33 of the poled film is 11 pm/V. The SHG measurements show that the break-over temperature of SHG signal increases after irradiation, and its orientation stability is doubled, compared with that of noncrosslinked samples.
 IT 193486-68-9P (photocrosslinking effect on orientation stability of poly(vinyl alc.) containing 4-nitro-4'-alkoxystilbene and cinnamyl pendent groups)
 RN 193486-68-9 HCAPLUS
 CN Ethenol, homopolymer, [4-[2-(4-nitrophenyl)ethenyl]phenoxy]acetate 3-phenyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 146794-15-2
CMF C16 H13 N 05

CM 2

CRN 621-82-9
CMF C9 H8 O2

CM 3

CRN 9002-89-5
 CMF (C₂ H₄ O)x
 CCI PMS

CM 4

CRN 557-75-5
 CMF C₂ H₄ O

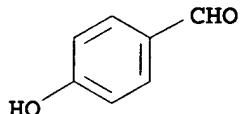


IT 123-08-0

(starting material for pendent group; photocrosslinking effect on orientation stability of poly(vinyl alc.) containing 4-nitro-4'-alkoxystilbene and cinnamyl pendent groups)

RN 123-08-0 HCPLUS

CN Benzaldehyde, 4-hydroxy- (CA INDEX NAME)



CC 37-6 (Plastics Manufacture and Processing)
 Section cross-reference(s): 73

IT Crosslinking

(photochem.; photocrosslinking effect on orientation stability of poly(vinyl alc.) containing 4-nitro-4'-alkoxystilbene and cinnamyl pendent groups)

IT 193486-68-9P

(photocrosslinking effect on orientation stability of poly(vinyl alc.) containing 4-nitro-4'-alkoxystilbene and cinnamyl pendent groups)

IT 79-11-8, Chloroacetic acid, reactions 104-03-0, p-Nitrophenylacetic acid 123-08-0

(starting material for pendent group; photocrosslinking effect on orientation stability of poly(vinyl alc.) containing 4-nitro-4'-alkoxystilbene and cinnamyl pendent groups)

L75 ANSWER 5 OF 12 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1997:332075 HCPLUS

DOCUMENT NUMBER: 126:310459

ORIGINAL REFERENCE NO.: 126:60057a,60060a

TITLE: Thermal recording material containing poly(vinyl alcohol)-based polymer

INVENTOR(S): Washisu, Shintaro; Goto, Hidenori

PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09066666	A	19970311	JP 1996-13349 <--	19960129
US 5661101	A	19970826	US 1996-659435 <--	19960606
PRIORITY APPLN. INFO.:			JP 1995-151470 <--	A 19950619
			JP 1996-13349 <--	A 19960129

ED Entered STN: 24 May 1997

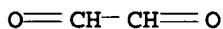
AB The recording material contains a poly(vinyl alc.)-based polymer with syndiotacticity (dyad convention) ≥ 55 mol% and saponification degree ≥ 85 mol% in (A) a coloring layer containing two colorless components which color by reaction each other and/or (B) an optionally laminated protecting layer containing a pigment and a binder. The material showed good water and chemical resistances and printability without sticking.

IT 107-22-2, Glyoxal

(crosslinking agent; thermal recording material containing poly(vinyl alc.)-based polymer)

RN 107-22-2 HCPLUS

CN Ethanodial (CA INDEX NAME)



IT 68508-47-4, Itaconic acid-vinyl alcohol copolymer
(thermal recording material containing poly(vinyl alc.)-based polymer)

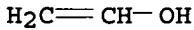
RN 68508-47-4 HCPLUS

CN Butanedioic acid, 2-methylene-, polymer with ethenol (CA INDEX NAME)

CM 1

CRN 557-75-5

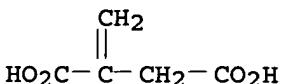
CMF C2 H4 O



CM 2

CRN 97-65-4

CMF C5 H6 O4



IC ICM B41M005-26

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 107-22-2, Glyoxal

(crosslinking agent; thermal recording material containing

IT poly(vinyl alc.)-based polymer)
 9002-89-5, PVA 105 9002-89-5D, Poly(vinyl alcohol), saponified
 25067-34-9, RS 110 (polymer) 68508-47-4, Itaconic acid-vinyl
 alcohol copolymer 189233-63-4, RS 106 189233-65-6, RS 117H
 (thermal recording material containing poly(vinyl alc.)-based polymer)

L75 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1994:484883 HCAPLUS
 DOCUMENT NUMBER: 121:84883
 ORIGINAL REFERENCE NO.: 121:15267a,15270a
 TITLE: Poly(vinyl alcohol) packaging films for solid
 detergents
 INVENTOR(S): Nehashi, Tsutomu; Fujii, Yasuyuki; Sawada,
 Michitaka
 PATENT ASSIGNEE(S): Kao Corp, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06065462	A	19940308	JP 1992-221388	19920820
<--				
PRIORITY APPLN. INFO.:			JP 1992-221388	19920820
<--				

ED Entered STN: 20 Aug 1994
 AB The packaging films are made from a composition based on vinyl alc.
 copolymers containing vinyl acetate and anionic vinyl monomer residues and
 containing 0.005-2.0 phr of ≥ 1 substance selected from (1) C10
 terpenic hydrocarbons, alcs., and aldehydes with ≥ 1 C-C double
 bond, (2) C7-15 aromatic alcs. and aldehydes, and (3) C7-12 acetic acid
 esters. A 25- μ m film was made by casting a composition based on a
 copolymer of 96 mol% vinyl alc., 3 mol% acrylic acid and 1 mol% vinyl
 acetate, and containing 0.1 phr additive A containing 60% β -pinene and
 40% terpinolene, or 0.1 phr additive B containing 50% limonene, 20%
 α -pinene and 30% benzyl acetate. The film did not have the
 unpleasant smell of NaOAc when stored in a sealed container at -5,
 +20, or +40° for 10 days.
 IT 37768-21-1, Acrylic acid-vinyl acetate-vinyl alcohol copolymer
 71745-18-1, Maleic acid-vinyl acetate-vinyl alcohol copolymer
 94479-84-2, Itaconic acid-vinyl acetate-vinyl alcohol
 copolymer
 (compns. of, for detergent packaging films)
 RN 37768-21-1 HCAPLUS
 CN 2-Propenoic acid, polymer with ethenol and ethenyl acetate (CA INDEX
 NAME)

CM 1

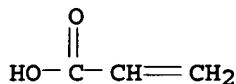
CRN 557-75-5
 CMF C2 H4 O

$\text{H}_2\text{C}=\text{CH}-\text{OH}$

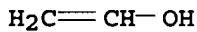
CM 2

CRN 108-05-4
CMF C4 H6 O2

CM 3

CRN 79-10-7
CMF C3 H4 O2RN 71745-18-1 HCAPLUS
CN 2-Butenedioic acid (2Z)-, polymer with ethenol and ethenyl acetate
(CA INDEX NAME)

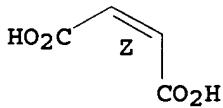
CM 1

CRN 557-75-5
CMF C2 H4 O

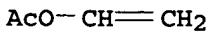
CM 2

CRN 110-16-7
CMF C4 H4 O4

Double bond geometry as shown.

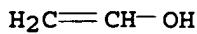


CM 3

CRN 108-05-4
CMF C4 H6 O2RN 94479-84-2 HCAPLUS
CN Butanedioic acid, 2-methylene-, polymer with ethenol and ethenyl

acetate (CA INDEX NAME)

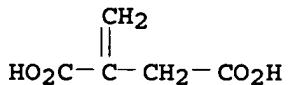
CM 1

CRN 557-75-5
CMF C2 H4 O

CM 2

CRN 108-05-4
CMF C4 H6 O2

CM 3

CRN 97-65-4
CMF C5 H6 O4

IC ICM C08L029-04
ICS C08L029-04
 CC 37-6 (Plastics Manufacture and Processing)
 Section cross-reference(s): 38
 IT **Aldehydes, uses**
 (aryl, poly(vinyl alc.) compns. containing, for detergent packaging
 films)
 IT 37768-21-1, Acrylic acid-vinyl acetate-vinyl alcohol copolymer
 71745-18-1, Maleic acid-vinyl acetate-vinyl alcohol copolymer
 94479-84-2, Itaconic acid-vinyl acetate-vinyl alcohol
 copolymer
 (compns. of, for detergent packaging films)

L75 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1993:430153 HCAPLUS
 DOCUMENT NUMBER: 119:30153
 ORIGINAL REFERENCE NO.: 119:5545a,5548a
 TITLE: Thermosensitive recording material with blocking,
 plasticizer and water resistance
 INVENTOR(S): Miyauchi, Shinobu; Kurisu, Norio
 PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
 SOURCE: U.S., 8 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5194418	A	19930316	US 1991-749185 <--	19910823
JP 05301456	A	19931116	JP 1991-234169 <--	19910821
JP 3161774	B2	20010425		
PRIORITY APPLN. INFO.:			JP 1990-223802 <--	A 19900825

ED Entered STN: 24 Jul 1993

AB The title material comprises a support, a coloring layer of a leuco dye and a color developer, and overcoat layer which contains a crosslinked first resin, and a backcoat layer which contains a crosslinked second resin, different from the first. The water content of the thermosetting recording material should be $\leq 7\%$ to prevent blocking problems. A paper support was coated with a coloring layer, a overcoat containing 20% dispersion of SiO₂ 10, 30% Zn stearate 1, 10% aqueous itaconic acid-modified polyvinyl alc. 40, 12.5% aqueous solution polyamide-epichlorohydrin 9, and water 40 parts, and on the backside with a coating of 20% Al(OH)₃ 15, 30% dispersion of Zn stearate 1, 10% aqueous solution polyvinyl alc. (saponified $\geq 97\%$) 40, 10% glyoxal 2, and water 54 parts to give the recording material.

IT 107-22-2, Glyoxal
(backcoat containing, for antiblocking plasticizer- and water-resistant thermal recording material)

RN 107-22-2 HCPLUS

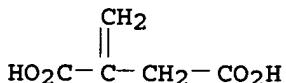
CN Ethanodial (CA INDEX NAME)

O=CH-CH=O

IT 81544-50-5
(overcoat containing, crosslinkable, for antiblocking plasticizer- and water-resistant thermal recording material)
RN 81544-50-5 HCPLUS
CN Ethenol, homopolymer, methylenebutanedioate (CA INDEX NAME)

CM 1

CRN 97-65-4
CMF C₅ H₆ O₄



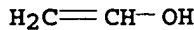
CM 2

CRN 9002-89-5
CMF (C₂ H₄ O)_x
CCI PMS

CM 3

CRN 557-75-5

CMF C2 H4 O

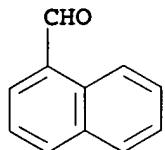


IC ICM B41M005-40
 INCL 503226000
 CC 42-11 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 74
 ST antiblocking thermal recording material; water resistant thermal recording material; polyvinyl alc itaconate **crosslinkable** overcoat; saponified polyvinyl alc **crosslinkable** backcoat
 IT 9003-20-7D, Polyvinyl acetate, saponified 9012-76-4, Chitosan (backcoat containing, **crosslinkable**, for antiblocking plasticizer- and water-resistant thermal recording material)
 IT 107-22-2, Glyoxal 9003-08-1, Melamine resin 32535-84-5, Ammonium zirconyl carbonate 52234-82-9 (backcoat containing, for antiblocking plasticizer- and water-resistant thermal recording material)
 IT 81544-50-5 (overcoat containing, **crosslinkable**, for antiblocking plasticizer- and water-resistant thermal recording material)

L75 ANSWER 8 OF 12 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1991:472651 HCPLUS
 DOCUMENT NUMBER: 115:72651
 ORIGINAL REFERENCE NO.: 115:12577a,12580a
 TITLE: Triplet energy migration in solid films of photoreactive polymers
 AUTHOR(S): Farid, Samir; Daly, Robert C.; Moody, Roger E.; Huang, Wei Yu; Reiser, Arnost
 CORPORATE SOURCE: Corp. Res. Lab., Eastman Kodak Co., Rochester, NY, 14650, USA
 SOURCE: Macromolecules (1991), 24(14), 4041-6
 CODEN: MAMOBX; ISSN: 0024-9297
 DOCUMENT TYPE: Journal
 LANGUAGE: English

ED Entered STN: 23 Aug 1991
 AB Triplet energy migration in photoreactive **crosslinkable** polymer matrixes, e.g., unsatd. esters of poly(vinyl alc.), was investigated. By viewing the solid polymer as an ensemble of reactant sites, the encounter statistics of the excitation quanta with reactive sites could be derived. The migration range of the quanta in the solid matrix could then be estimated from the effect of triplet quenchers on the photosensitivity of the material. The migration range strongly depended on the structure of the photosensitive moiety, and the average number of jumps varied from <10 to >100. The role of triplet migration in determining the sensitivity of photoreactive polymer films was discussed.
 IT 66-77-3, 1-Naphthalenecarboxaldehyde (condensation of, with malonic acid)
 RN 66-77-3 HCPLUS
 CN 1-Naphthalenecarboxaldehyde (CA INDEX NAME)



IT 135143-94-1

(photocrosslinking of, triplet energy migration in relation to)

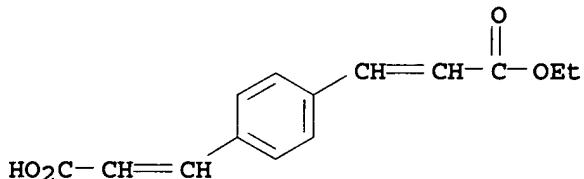
RN 135143-94-1 HCPLUS

CN Ethenol, homopolymer, 3-[4-(3-ethoxy-3-oxo-1-propenyl)phenyl]-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 32445-29-7

CMF C14 H14 O4



CM 2

CRN 9002-89-5

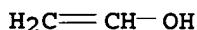
CMF (C2 H4 O)x

CCI PMS

CM 3

CRN 557-75-5

CMF C2 H4 O



IT 9050-06-0P, Poly(vinyl alcohol) cinnamate 135143-95-2P

, Poly(vinyl alcohol) 3-(1-naphthyl)propenoate

(preparation and photocrosslinking of, triplet energy migration in relation to)

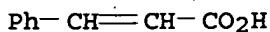
RN 9050-06-0 HCPLUS

CN Ethenol, homopolymer, 3-phenyl-2-propenoate (CA INDEX NAME)

CM 1

CRN 621-82-9

CMF C9 H8 O2



CM 2

CRN 9002-89-5
 CMF (C₂ H₄ O)x
 CCI PMS

CM 3

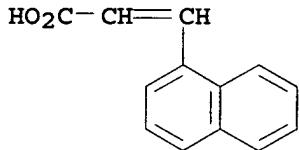
CRN 557-75-5
 CMF C₂ H₄ O



RN 135143-95-2 HCPLUS
 CN Ethenol, homopolymer, 3-(1-naphthalenyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 13026-12-5
 CMF C₁₃ H₁₀ O₂

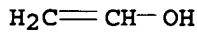


CM 2

CRN 9002-89-5
 CMF (C₂ H₄ O)x
 CCI PMS

CM 3

CRN 557-75-5
 CMF C₂ H₄ O



CC 36-5 (Physical Properties of Synthetic High Polymers)
 Section cross-reference(s): 37, 74

IT Crosslinking

(photochem., of poly(vinyl alc.) unsatd. esters and unsatd.
 polyester-ethers, triplet energy migration and photosensitivity in
 relation to)

IT 66-77-3, 1-Naphthalenecarboxaldehyde
(condensation of, with malonic acid)
IT 135143-94-1
(photocrosslinking of, triplet energy migration in relation to)
IT 9050-06-0P, Poly(vinyl alcohol) cinnamate 53710-66-0P
58608-19-8P 83216-61-9P 135143-95-2P, Poly(vinyl alcohol)
3-(1-naphthyl)propenoate
(preparation and photocrosslinking of, triplet energy migration in
relation to)

L75 ANSWER 9 OF 12 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1988:39516 HCAPLUS

DOCUMENT NUMBER: 108:39516

ORIGINAL REFERENCE NO.: 108:6611a,6614a

TITLE: Chemical modification of cotton and poly(vinyl
alcohol) fiber by graft copolymerization and
crosslinking

AUTHOR(S): Tsuji, Waichiro; Hiro, Miki; Nakao, Tokie

CORPORATE SOURCE: Mukogawa Women's Univ., Nishinomiya, Japan

SOURCE: Mukogawa Joshi Daigaku Kiyo, Hifuku-hen (1986), 34, C59-C68

CODEN: MDHEDZ; ISSN: 0387-2092

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

ED Entered STN: 06 Feb 1988

AB Poly(vinyl alc.) fabric and cotton fabric were grafted with
acrylamide, acrylonitrile, and acrylic acid, using cerium ammonium
nitrate as catalyst, and crosslinked with HCHO and glyoxal.
The grafting decreased the strength and increase recovery. Addition of
Na₂SO₄ or NaOAc in the treating bath decreased the decrease in
strength after grafting.

IT 107-22-2, Glyoxal
(crosslinking of acrylic-grafted cotton and vinal fiber
by)

RN 107-22-2 HCAPLUS

CN Ethanodial (CA INDEX NAME)

O=CH-CH=O

IT 50-00-0, Formaldehyde, reactions
(crosslinking of acrylic-grafted cotton and vinal fiber
by)

RN 50-00-0 HCAPLUS

CN Formaldehyde (CA INDEX NAME)

H₂C=O

IT 109526-82-1, Acrylic acid-vinyl alcohol graft copolymer
(fiber)

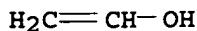
RN 109526-82-1 HCAPLUS

CN 2-Propenoic acid, polymer with ethenol, graft (CA INDEX NAME)

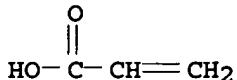
CM 1

CRN 557-75-5

CMF C2 H4 O



CM 2

CRN 79-10-7
CMF C3 H4 O2

CC 40-9 (Textiles and Fibers)
 ST cotton fiber grafting **crosslinking**; vinal fiber grafting **crosslinking**; acrylic grafting cotton vinal fiber; polymn graft cotton vinal fiber; **crosslinking** grafted cotton vinal fiber
 IT Vinal fibers
 (acrylic-grafted, **crosslinking** of)
 IT **Crosslinking**
 (of acrylic-grafted cotton and vinal fibers with formaldehyde and glyoxal)
 IT Textiles
 (cotton, acrylic-grafted, **crosslinking** of)
 IT 107-22-2, Glyoxal
 (**crosslinking** of acrylic-grafted cotton and vinal fiber by)
 IT 50-00-0, Formaldehyde, reactions
 (**crosslinking** of acrylic-grafted cotton and vinal fiber by)
 IT 79-06-1D, Acrylamide, polymers with cotton, graft 79-10-7D, Acrylic acid, polymers with cotton, graft 107-13-1D, Acrylonitrile, polymers with cotton, graft 107709-18-2, Acrylonitrile-vinyl alcohol graft copolymer 108968-01-0, Acrylamide-vinyl alcohol graft copolymer 109526-82-1, Acrylic acid-vinyl alcohol graft copolymer (fiber)
 IT 127-09-3, Sodium acetate 7757-82-6, Sodium sulfate, uses and miscellaneous
 (in easy-care finishing of **crosslinked**, acrylic-grafted cotton and vinal fiber)
 IT 9002-89-5
 (vinal fibers, acrylic-grafted, **crosslinking** of)

L75 ANSWER 10 OF 12 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1983:163919 HCPLUS
 DOCUMENT NUMBER: 98:163919
 ORIGINAL REFERENCE NO.: 98:24843a,24846a
 TITLE: Polyvinyl alcohol membranes as alkaline battery separators
 AUTHOR(S): Sheibley, Dean W.; Gonzalez-Sanabria, Olga; Manzo, Michelle
 CORPORATE SOURCE: Lewis Res. Cent., Natl. Aeronaut. and Space Adm., Cleveland, OH, USA
 SOURCE: NASA Tech. Memo. (1982), NASA-TM-82961, E-1378, NAS 1.15:82961, 23 pp. Avail.: NTIS

From: Sci. Tech. Aerosp. Rep. 1983, 21(1), Abstr.
 No. N83-10135
 CODEN: NATMA4; ISSN: 0499-9320

DOCUMENT TYPE:

Report

LANGUAGE:

English

ED Entered STN: 12 May 1984

AB polyvinyl alc. (PVA) [9002-89-5] crosslinked with aldehyde reagents yields membranes that demonstrate properties that make them suitable for use as alkaline battery separators. Film properties can be controlled by the choice of crosslinker, crosslink d., and the method of crosslinking. Three methods of crosslinking and their effects on film properties are discussed. Film properties can also be modified by using a acrylic acid-vinyl alc. copolymer [26299-60-5] as the base for the separator and crosslinking it similarly to the PVA. Fillers can be incorporated into the films to further modify film properties. Results of separator screening tests and battery tests for several variations of PVA films are discussed.

IT 26299-60-5

(aldehyde-crosslinked, as alkaline battery separators)

RN 26299-60-5 HCPLUS

CN 2-Propenoic acid, polymer with ethenol (CA INDEX NAME)

CM 1

CRN 557-75-5

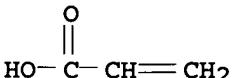
CMF C2 H4 O

H₂C=CH-OH

CM 2

CRN 79-10-7

CMF C3 H4 O2



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 38

IT Aldehydes, uses and miscellaneous

(battery separators from polyvinyl alc. crosslinked with, alkaline)

IT Batteries, secondary

(separators, alkaline, aldehyde-crosslinked polyvinyl alc. as)

IT 9002-89-5 26299-60-5

(aldehyde-crosslinked, as alkaline battery separators)

L75 ANSWER 11 OF 12 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1976:60743 HCPLUS

DOCUMENT NUMBER: 84:60743

ORIGINAL REFERENCE NO.: 84:10009a,10012a

TITLE: Light-sensitive polymers

INVENTOR(S): Pacifici, James G.
 PATENT ASSIGNEE(S): Eastman Kodak Co., USA
 SOURCE: U.S., 6 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3912697	A	19751014	US 1973-355117	19730427
				<--
PRIORITY APPLN. INFO.: US 1973-355117				19730427
				<--

ED Entered STN: 12 May 1984
 AB Vinol 523 [poly(vinylalc.)] (I) was modified by a substituted vinylbenzoyl chloride photosensitizer to give a composition which was masked and irradiated to form **crosslinked** image regions. Typically, Me 4-[2-(5,6-dimethyl-2-benzoxazolyl)vinyl]benzoate [2702-44-5] was refluxed in aqueous HOAc-H₂SO₄ and the acid [57956-18-0] formed was treated with SOCl₂ and Na₂CO₃ to give 4-[2-(5,6-dimethyl-2-benzoxazolyl)vinyl]benzoyl chloride [38218-04-1] which was used to esterify I. Modified I cast on rolled steel was exposed to a Hg lamp through a neg. mask to give products with insol. exposed portions.

IT 58057-04-8
 (light-sensitive)

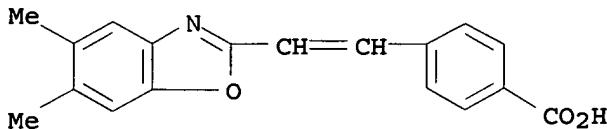
RN 58057-04-8 HCAPLUS

CN Ethenol, homopolymer, acetate 4-[2-(5,6-dimethyl-2-benzoxazolyl)ethenyl]benzoate 3-phenyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 57956-18-0

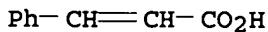
CMF C18 H15 N O3



CM 2

CRN 621-82-9

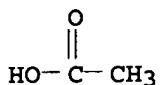
CMF C9 H8 O2



CM 3

CRN 64-19-7

CMF C2 H4 O2

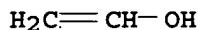


CM 4

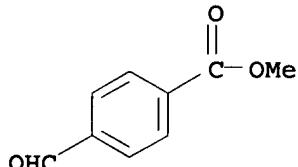
CRN 9002-89-5
 CMF (C2 H4 O)x
 CCI PMS

CM 5

CRN 557-75-5
 CMF C2 H4 O



IT 1571-08-0
 (reaction of, with methylbenzothiazole)
 RN 1571-08-0 HCPLUS
 CN Benzoic acid, 4-formyl-, methyl ester (CA INDEX NAME)



IC C08F; G03C
 INCL 260079500NV
 CC 37-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 74
 IT Crosslinking
 (of poly(vinyl alc.) (benzoxazolylvinyl)benzoates, by light)
 IT 58057-03-7 58057-04-8 58057-05-9 58057-06-0
 (light-sensitive)
 IT 1571-08-0
 (reaction of, with methylbenzothiazole)

L75 ANSWER 12 OF 12 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1973:419676 HCPLUS
 DOCUMENT NUMBER: 79:19676
 ORIGINAL REFERENCE NO.: 79:3167a,3170a
 TITLE: Light-sensitive polymeric esters
 INVENTOR(S): Gates, Allen Peter
 PATENT ASSIGNEE(S): Howson-Algraphy Ltd.
 SOURCE: Ger. Offen., 30 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

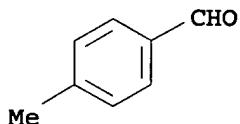
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2251828	A1	19730426	DE 1972-2251828 <--	19721021
DE 2251828	C2	19830127		
ZA 7207353	A	19730627	ZA 1972-7353 <--	19721016
CA 986638	A1	19760330	CA 1972-154519 <--	19721018
FI 57183	B	19800229	FI 1972-2886 <--	19721018
FI 57183	C	19800610		
AU 7247952	A	19740426	AU 1972-47952 <--	19721019
BE 790383	A1	19730215	BE 1972-123337 <--	19721020
NL 7214212	A	19730425	NL 1972-14212 <--	19721020
NL 189626	B	19930104		
NL 189626	C	19930601		
FR 2156906	A1	19730601	FR 1972-37376 <--	19721020
FR 2156906	B1	19790316		
IT 975318	B	19740720	IT 1972-70312 <--	19721020
CH 558400	A	19750131	CH 1972-15391 <--	19721020
SU 493984	A3	19751128	SU 1972-1845296 <--	19721020
SE 393621	B	19770516	SE 1972-13552 <--	19721020
NO 137104	B	19770919	NO 1972-3785 <--	19721020
IN 137774	A1	19750920	IN 1972-1703 <--	19721021
ES 408109	A1	19751001	ES 1972-408109 <--	19721021
JP 48050801	A	19730717	JP 1972-107658 <--	19721023
JP 57008126	B	19820215		
DD 102222	A5	19731212	DD 1972-162944 <--	19721023
AT 322977	B	19750625	AT 1972-9036 <--	19721023
CS 171174	B2	19761029	CS 1972-7107 <--	19721023
PRIORITY APPLN. INFO.:			GB 1971-49297 <--	A 19711022

ED Entered STN: 12 May 1984

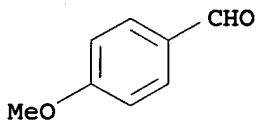
AB The title compns., useful in photoresists having good color change and increased sensitivity, contain azido derivs. of unsatd. acids. Thus, heating 2.42 g p-azido-2-chlorocinnamaldehyde [22736-82-9], 5.4 g cyanoacetic acid [372-09-8], and 50 ml HOAc 2 hr at 80.deg. gives 1.4 g 5-(p-azidophenyl)-5-chloro-2-cyano-2,4-pentadienoic acid (I) [40742-07-2], refluxing 4 g of which with 25 ml SOCl2 6 hr gives the acid chloride (II). Stirring 2.93 g II, 2.00 g Epikote 1007, 30 ml dioxane, and 1.0 ml pyridine 4 hr at 50.deg. gives 3.41 g bisphonol

A-epichlorohydrin copolymer 5-(p-azidophenyl)-5-chloro-2-cyano-2,4-pentadienoate (III) [40738-67-8]. Exposing an 0.5 g/m² coating of III on Al to a pulsed 400 W Xe lamp for 30 sec at 0.65 m gives a deep yellow-brown image which can be developed with a crosslinking agent-containing glycol ester.

IT 104-87-0 123-11-5
(nitration of)
RN 104-87-0 HCPLUS
CN Benzaldehyde, 4-methyl- (CA INDEX NAME)



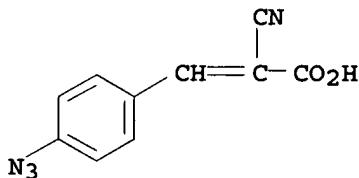
RN 123-11-5 HCPLUS
CN Benzaldehyde, 4-methoxy- (CA INDEX NAME)



IT 39434-68-9
(photoresist)
RN 39434-68-9 HCPLUS
CN Ethenol, homopolymer, 3-(4-azidophenyl)-2-cyano-2-propenoate (9CI)
(CA INDEX NAME)

CM 1

CRN 42460-60-6
CMF C10 H6 N4 O2

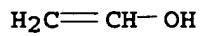


CM 2

CRN 9002-89-5
CMF (C2 H4 O)x
CCI PMS

CM 3

CRN 557-75-5
CMF C2 H4 O



IC C07C; C08F; G03C

CC 36-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 25, 74

IT 104-87-0 123-11-5
(nitration of)

IT 25068-38-6D, Epikote 1009, esters with azidocinnamic acid derivs.

39434-68-9 39464-37-4 39464-38-5 39464-39-6 39464-40-9

39464-41-0 39464-42-1 39464-43-2 39464-44-3 39464-45-4

42460-60-6D, 2-Propenoic acid, 3-(4-azidophenyl)-2-cyano-, esters with

epoxy resins

(photoresist)

=> d his nofile

(FILE 'HOME' ENTERED AT 11:05:26 ON 16 DEC 2008)

FILE 'HCAPLUS' ENTERED AT 11:05:33 ON 16 DEC 2008

L1 1 SEA ABB=ON PLU=ON US20060205871/PN
SEL RN

FILE 'REGISTRY' ENTERED AT 11:05:47 ON 16 DEC 2008

L2 2 SEA ABB=ON PLU=ON (111-30-8/BI OR 51651-40-2/BI)
E POLYVINYL ACETAL/CN

L3 1 SEA ABB=ON PLU=ON "POLYVINYL ACETALS"/CN
E VINYL ACETAL/CN

L4 1 SEA ABB=ON PLU=ON "VINYL ACETAL POLYMERS"/CN

L5 STR

L6 STR

L7 STR L6

L8 0 SEA SSS SAM L5 AND L7

L9 SCR 2043

L10 7 SEA SSS SAM L5 AND L7 AND L9

L11 STR L5

L12 7 SEA SSS SAM L11 AND L7 AND L9

L13 962 SEA SSS FUL L11 AND L7 AND L9

SAV L13 BER022/A

L14 32 SEA ABB=ON PLU=ON L13 AND ALDEH?

L15 STR

L16 0 SEA SUB=L13 SSS SAM L15

L17 6 SEA SUB=L13 SSS FUL L15

SAV L17 BER022A/A

L18 956 SEA ABB=ON PLU=ON L13 NOT L17

FILE 'HCAPLUS' ENTERED AT 11:29:29 ON 16 DEC 2008

L19 7 SEA ABB=ON PLU=ON L17

L20 1924 SEA ABB=ON PLU=ON L18

L21 12977 SEA ABB=ON PLU=ON L2

L22 9 SEA ABB=ON PLU=ON L20 AND L21

E ALDEHYDES/CV

L23 59532 SEA ABB=ON PLU=ON ALDEHYDES/CV

E ALDEHYDES, REACTIONS/CV

L24 23508 SEA ABB=ON PLU=ON "ALDEHYDES, REACTIONS"/CV

L25 5 SEA ABB=ON PLU=ON L20 AND (L23 OR L24)

E ALDEHYDES, REACTIONS/CT

L26 23508 SEA ABB=ON PLU=ON "ALDEHYDES, REACTIONS"+PFT,NT/CT

E ALDEHYDES/CT

L27 425286 SEA ABB=ON PLU=ON ALDEHYDES+PFT,NT/CT

53 SEA ABB=ON PLU=ON L20 AND (L26 OR L27)

L29 28 SEA ABB=ON PLU=ON L28 AND (CROSSLINK? OR CROSS LINK?)

L30 30 SEA ABB=ON PLU=ON L25 OR L29

L31 21 SEA ABB=ON PLU=ON L30 AND (1840-2003)/PRY,AY,PY

L32 2 SEA ABB=ON PLU=ON L19 AND (1840-2003)/PRY,AY,PY

L33 7 SEA ABB=ON PLU=ON L22 AND (1840-2003)/PRY,AY,PY

E POLYVINYL ACETALS/CT

L34 19020 SEA ABB=ON PLU=ON "POLYVINYL ACETALS"+PFT,NT/CT

23 SEA ABB=ON PLU=ON L34 AND L26

L36 1 SEA ABB=ON PLU=ON L35 AND L1

L37 7 SEA ABB=ON PLU=ON L35 AND (CROSSLINK? OR CROSS LINK?)

L38 6 SEA ABB=ON PLU=ON L37 AND (1840-2003)/PRY,AY,PY

L39 15 SEA ABB=ON PLU=ON L32 OR L33 OR L38

L40 15 SEA ABB=ON PLU=ON L31 NOT L39

L41 3 SEA ABB=ON PLU=ON L34 AND L26 AND L21
 L42 123 SEA ABB=ON PLU=ON L34 AND L21
 L43 85 SEA ABB=ON PLU=ON L42 AND (CROSSLINK? OR CROSS LINK?)
 L44 65 SEA ABB=ON PLU=ON L43 AND (PLASTIC? OR POLYMER?)/SC, SX
 L45 55 SEA ABB=ON PLU=ON L44 AND (1840-2003)/PRY, AY, PY
 L46 1 SEA ABB=ON PLU=ON L45 AND L1
 L47 448 SEA ABB=ON PLU=ON L34 (L) (CROSSLINK? OR CROSS LINK?)
 L48 3 SEA ABB=ON PLU=ON L47 AND L26
 L49 35 SEA ABB=ON PLU=ON L47 AND L21
 L50 29 SEA ABB=ON PLU=ON L49 AND (1840-2003)/PRY, AY, PY
 L51 10 SEA ABB=ON PLU=ON L50 AND POLYMER?/SC, SX
 L52 23 SEA ABB=ON PLU=ON L51 OR L39
 L53 15 SEA ABB=ON PLU=ON L40 NOT L52

FILE 'REGISTRY' ENTERED AT 14:05:35 ON 16 DEC 2008

E GLUTARIC DIALDEHYDE/CN

L54 1 SEA ABB=ON PLU=ON "GLUTARIC DIALDEHYDE"/CN
 E NONANEDIAL/CN
 L55 1 SEA ABB=ON PLU=ON NONANEDIAL/CN
 E BUTYRALDEHYDE/CN
 L56 1 SEA ABB=ON PLU=ON BUTYRALDEHYDE/CN
 L57 QUE ABB=ON PLU=ON (L54 OR L55 OR L56)

FILE 'HCAPLUS' ENTERED AT 14:07:58 ON 16 DEC 2008

L58 26576 SEA ABB=ON PLU=ON (L54 OR L55 OR L56)
 L59 QUE ABB=ON PLU=ON GLUTARIC DIALDEHYD? OR NONANEDIAL? OR
 BUTYRALDEHYD?
 L60 15 SEA ABB=ON PLU=ON L20 AND L58
 L61 3 SEA ABB=ON PLU=ON L60 AND L59
 L62 15 SEA ABB=ON PLU=ON L60 OR L61
 D 15 IBIB HITSTR
 L63 11 SEA ABB=ON PLU=ON L62 AND (CROSSLINK? OR CROSS LINK?)
 L64 15 SEA ABB=ON PLU=ON L62 OR L63
 L65 13 SEA ABB=ON PLU=ON L64 AND (1840-2003)/PRY, AY, PY

FILE 'REGISTRY' ENTERED AT 14:16:14 ON 16 DEC 2008

L66 1 SEA ABB=ON PLU=ON 111-30-8/RN
 L67 698 SEA ABB=ON PLU=ON 111-30-8/CRN
 L68 2 SEA ABB=ON PLU=ON 51651-40-2/CRN
 L69 263 SEA ABB=ON PLU=ON 123-72-8/CRN
 L70 7 SEA ABB=ON PLU=ON L13 AND ((L67 OR L68 OR L69))

FILE 'HCAPLUS' ENTERED AT 14:17:36 ON 16 DEC 2008

L71 9 SEA ABB=ON PLU=ON L70
 L72 2 SEA ABB=ON PLU=ON L71 AND (1840-2003)/PRY, AY, PY

FILE 'HCAPLUS' ENTERED AT 14:20:13 ON 16 DEC 2008

L73 15 SEA ABB=ON PLU=ON L65 OR L72
 L74 29 SEA ABB=ON PLU=ON L73 OR L52
 L75 12 SEA ABB=ON PLU=ON L53 NOT L74